Stage 4 – Functional Prototype

Group: 10

Prototype Availability and Startup Instructions

URL for your Prototype

The functional prototype is available as a client-side web application at the following public URL:

URL: https://bencastello.github.io/main_assignment_ipm_website/app_code/homepage.html

Note: As required by the project specifications, this prototype is now final and will not be changed.

Startup Instructions

Platform: Web Application (Web). Software Requirements: A modern web browser (e.g., Google Chrome, Mozilla Firefox, Microsoft Edge, Safari is **NOT** recommended because it misses out some elements).

Brief Instructions for Starting up:

1. Open the URL provided above in your web browser.
2. The functional prototype of the "Shelf." application will load directly to the homepage.

Briefing for the Users (with necessary adjustments)

This briefing was provided to users during the testing of the paper prototype (Stage 3) and has been updated to clarify points of confusion, as pointed out in "Analysis after Testing Day" in the Stage 3 Report, specifically regarding the **nature of the books (digital)** and the **app roles (friends vs. curators)**.

About the App

Shelf. is an application for buying and reading books. The core of the app is the purchase and reading of **digital book editions** directly within the application, which are stored in your virtual library. In addition, you can comment on books you've read and tag friends to recommend titles to them directly. The app is designed to make reading more social and interactive, combining book discovery, personal recommendations, and community exchange.

Core Idea

Shelf. helps users not only find and buy books but also share their reading experiences with others. You can:

- Discover new books based on your interests and reading history.
- Connect with **your friends** through comments, mentions, and discussions. (The interactions and comments in the feeds exclusively originate from other users/friends, not from authors or curators.)
- Buy **digital books and digital special editions** directly within the app from curated collections, which are immediately added to your virtual library.
- Get inspired by algorithmic suggestions and **professional curator recommendations** (which are separate from your friends' activities).
- Explore the Awards section, where the best book of each genre is selected monthly by curators.

Main Features

- **Personalized Recommendations:** Receive tailored book suggestions ("For You") based on your previous reads and ratings.
- **Social Interaction:** Comment on books, tag friends to recommend them titles, and view your friends' reading activities. The app functions like a social medium where you can connect with friends and follow their reading activities.
- **Curator Awards:** Discover award-winning books selected monthly by professional curators.
- **Book Purchasing:** Easily browse, compare, and purchase digital books and digital special editions directly in the app. After purchase, the book immediately appears in your virtual library for reading within the app. No physical delivery takes place.
- **Profile & Privacy Settings:** Create a personalized profile with an avatar, choose your favorite genres, and manage your privacy preferences.

Goal of the Prototype

This functional prototype represents a design version of Shelf. We are testing how users interact with the app's main features and how intuitive the navigation feels. Your feedback will help us improve the usability, clarity, and overall experience of the app.

Scenarios

The following three scenarios were developed during Stage 3 and tested with the paper prototype. They define the minimum functionality (**medium fidelity in breadth**) supported by this functional prototype to help evaluators understand and evaluate the application.

Scenario 1 - Customize Profile and Privacy Settings

Motivation: You want to personalize your profile so that your friends can recognize you easily and your book recommendations feel more accurate.

You open your profile and notice that it's still empty. You start by creating an avatar. First, you consider uploading a selfie, but then decide to pick a random avatar instead. Add your favorite book genres so that the app can improve your recommendations. When checking the privacy settings, you realize that the default options make your profile public. You change the visibility to "Friends only" and decline some data-sharing permissions. Finally, save your settings and receive a confirmation message saying your preferences were updated successfully.

Scenario 2 - Social Interaction & Book Discussion

Motivation: You want to see what your friends are currently discussing and join the conversation.

You open the notifications tab and see that your friend Elli mentioned you in a comment. Tap the notification, which takes you to the book's profile page ("The Midnight Library"). You read Elli's comment: "I think you'd love this book!". You reply to the comment, sharing your opinion. You notice that several friends have already rated the book, so you tap on "See friends' ratings" to compare their reviews. Instead of buying the book right away, you decide to add it to your Reading List.

Scenario 3 - Buying a Book Through "For You" Recommendations

Motivation: You're looking for something new to read and want to explore personalized recommendations.

You open the For You section, which shows algorithmic book suggestions based on your reading history and preferences. You apply filters: genre "Classics" and price under 15 €. Among the results, "Faust I" catches your attention. You open the book's detail page to read the curator's review. The curator's description convinces you, so you press "Buy". During checkout, you notice there's also a Special Illustrated Edition. You choose that version instead. After purchasing, the book appears in your virtual library. The app asks: "Would you like to share your new book with your friends?". You confirm and share it.

Project History and Tools

URL of your Project

Evaluators can access the project history, including prior stages and the source code of this prototype, at the public GitHub repository:

Project URL: https://github.com/bencastello/main_assignment_ipm_website

Application Description and Tools Used

The application, **Shelf.**, is designed as a social e-book platform combining book discovery, personalized recommendations, and community interaction. Its core function is to facilitate the purchase and immediate in-app reading of digital books.

The prototype was developed as a client-side web application, demonstrating a High Fidelity in Look and an advanced Medium Fidelity in Breadth by implementing a modular data structure. The initial version was hard-coded, but the current functional prototype was completely refactored to be modular, meaning pages dynamically adapt when data is updated (e.g., adding a new book via the JSON library).

Tools and Languages Used:

Language/Tool	Purpose	Implementation Details
HTML	**Structure**	Used for the rough structure and to manage the collaboration of elements.
CSS	**Styling**	Utilizes a Global Stylesheet for consistent elements (like fonts) across the entire application, and individual CSS files for page-specific styling.
JavaScript	**Interactivity & Logic**	Used for all interactive elements, complex animations, and for reading and processing the JSON data files.
JSON	**Data Library**	Functions as the application's "backend" for storing persistent data, including the library and friend lists.

Data Structure (JSON Library):

- **books.json:** Contains all book information (author, title, etc.) and a critical **owned** feature (`true` or `false`).
  - o   If `owned = true`, the book is found in the user's virtual library.
  - o   If `owned = false`, the user is directed to the purchase page when trying to access the book.
- **search_index.json:** A simplified version of `books.json` (containing only the title, author, and image link). This reduced data set is used by the global search feature to ensure faster handling and better performance.
- The current library contains approximately **51 books** and is expected to grow further.

Incomplete Parts of the Prototype

The prototype conforms to the requirement of **low fidelity in depth**; therefore, not all parts are fully functional. Evaluators should be aware of the following incomplete features:

- **No Data Persistence (Low Fidelity in Depth):** User actions are simulated but not saved to the JSON files via JavaScript. While the data structure is modular, changes made by the user (e.g., saving profile settings, posting comments, changing the `owned` status to `true` after a simulated purchase) are **temporary** and will be lost upon refreshing the page. The prototype uses a static snapshot of the JSON files.
- **Non-Scenario Functionality:** All navigational elements, buttons, or features that are not strictly required to complete the tasks within the three defined Scenarios are static placeholders (e.g., adding real friends, purchase a real book, all functionalities of the curator's award site, and any sub-features within the main tabs not explicitly used in the scenarios).

- **The Reading Interface:** The core functionality of reading purchased books in-app is not implemented (There are not real books in the libraries). The prototype focuses solely on the book discovery, purchase, and social interaction flow.

- **The algorithmic-based for you page:** There is no implemented algorithm for proposing new books. We thought of some books we like for filling up this feature. In the final version there should be an algorithm based on past readings that proposes next books.

- **The personal profiles:** Since this webpage is only a prototype and not a sold application, there are no real privacy settings and no terms of conditions. This means there are no real profiles. There isn't a function for signing in for real, such that shelf remembers the profile data. Eighter the own profile settings are remembered (Users don't really have a profile) nor the curators and friends profiles are real. In the final implementation developers should care about the legitimity of the application, such that it's sellable.

- **Mobile Responsivnes:** Not all code is provided with functions for mobile responsivness. Some features have to be completed by mobile responsivness.

- **Annotation in the books:** In the prototype we wanted to allow annotations in the books, but we didn't implement them jet. We wanted to allow the friends to write comments in the books for the friends to see, but because there are no personal profiles and no real books implemented jet, this feature seemed quite complicate to implement. For the final implementation this fetaure would be nice thought because our main idea was to make the application as close as possible to a real bookstore from the feeling.

- **Ratings from friends for books:** There is no feature implemented for rating books. In the prototype we wanted to provide a feature such that friends can rate on books and the user can view this ratings for inspiration. As above (Annotation in the books) this feature has to be implemented in the final version.