

Scribble: A Story Sharing & Writing Platform

Introduction

Scribble is a dynamic story-sharing and writing platform designed for individuals who are passionate about reading and writing across various genres. Inspired by platforms like **Wattpad**, **Webnovel**, **Fable**, **Goodreads**, **GitHub**, and **Monkey Type**, Scribble creates a space for creative expression, community interaction, and author support. It allows users to write, publish, support, collaborate, and interact with stories in an engaging and user-friendly environment.

Motivation

As avid readers and frequent users of apps like **Goodreads**, **Fable**, **Wattpad**, and **Webnovel**, my friends and I realized the need for a platform that not only aligns with our interests but also reflects our passion and creativity. This inspired us to build **Scribble**, a platform that combines features from our favorite applications while introducing new, innovative concepts that make reading and writing more interactive and supportive.

Objectives

- Build a platform for authors and readers to connect through storytelling.
- Allow community-driven interactions via book-based groups.
- Enable users to support each other's work financially or emotionally.
- Create genre-based weekly contests to encourage creativity.
- Implement real-time communication using multithreading and socket programming.
- Provide gamified experiences to keep users engaged.

Features (Including Multithreading and Socket Programming)

Core Platform Features

- **Support System:** Users can support writers whose work they find interesting.
- **Author Collaboration:** Users can co-author books with others on the platform.
- **Interactive Reader Community:** Readers can comment on and rate books.
- **Community Groups:**
 - Each book has a dedicated group for discussion.

- A default group exists for physical book exchange.
- Users can create custom book groups and invite others to join.
- **Profile View:**
 - Modify personal information
 - View history, saved books, and supporter records
 - Track created books, drafts, collaborations, and group memberships

Weekly Genre-Based Contest System

- Contests are available for 4 genres: **Fantasy**, **Thriller Mystery**, **Youth Fiction**, and **Crime Horror**.
- Each user can participate once per week.
- Voting is only available during the current week.
- At the end of the week:
 - Contest results are shown in a “Previous Week” section.
 - Top 3 winners are determined by vote count and ranked accordingly.
 - These winners are temporarily restricted from participating for the next two weeks to ensure fairness and variety.
- **Rules and Logic:**
 - Entry submission and voting are disabled after the week ends.
 - The previous week becomes read-only to display results without allowing further interaction.

Multithreading Implementation

Multithreading is used to manage real-time communication without freezing the UI and to handle multiple users simultaneously:

- **Server-Side:** A fixed-size thread pool manages incoming client connections efficiently. Each client connection is assigned to a handler running in a separate thread. Messages are read and broadcast to the correct group while being saved in the database. A thread-safe structure ensures that multiple users can be managed reliably in parallel.

- **Client-Side:** A dedicated thread listens for incoming messages from the server. This background thread ensures that the JavaFX UI remains responsive, and messages received are updated on the UI safely without interrupting user interactions.

Socket Programming Implementation

Sockets enable real-time interaction between the server and clients using TCP-based communication:

- **Server-Side:** The server listens for client connections and assigns each new client to a communication handler. Clients are grouped by book discussion groups. Messages are received, broadcasted to the group, and saved in the database. When a client disconnects, they are removed from the group safely.
- **Client-Side:** Clients connect to the server and identify themselves with user and group information. They can send messages to the group and receive real-time updates. The chat interface updates messages in real-time, distinguishing between the sender and other participants.

Game Section

To keep the platform engaging, two simple but enjoyable games are included:

1. Puzzle Game:

- Users can solve puzzles using book covers.
- Multiple difficulty levels are available: 3x3, 4x4, and 6x6.

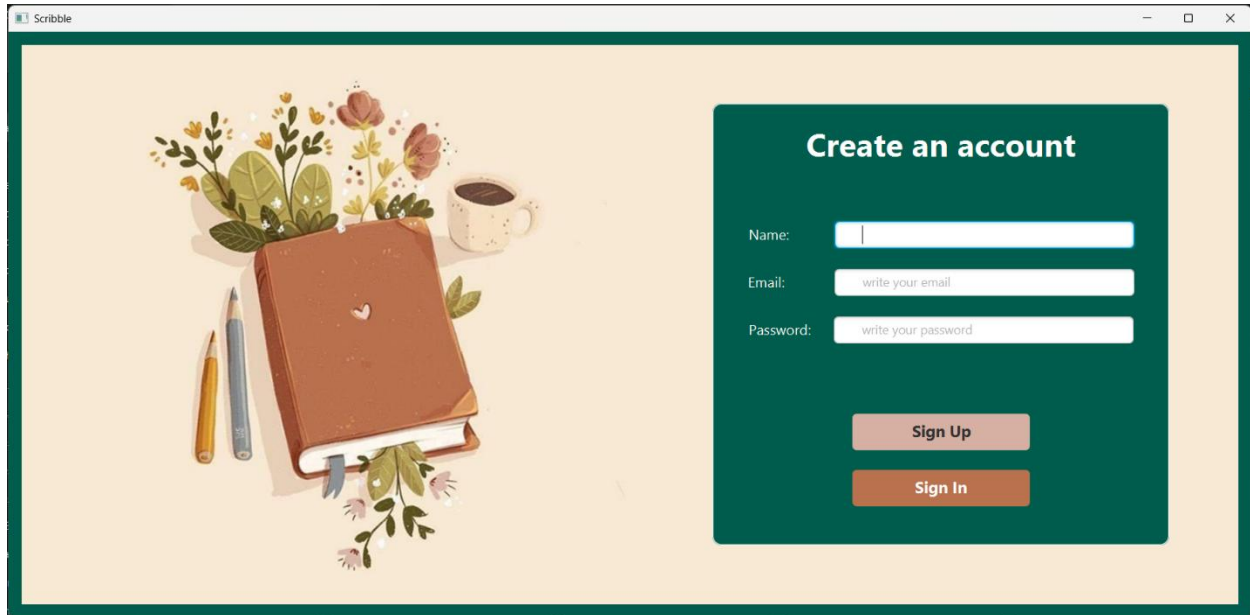
2. Tic-Tac-Toe Game:

- Users play against the computer.
- Input is automatically cleared after 20 seconds.
- The computer is designed with slightly higher chances of winning using strategic logic, making the game more challenging and engaging over time.

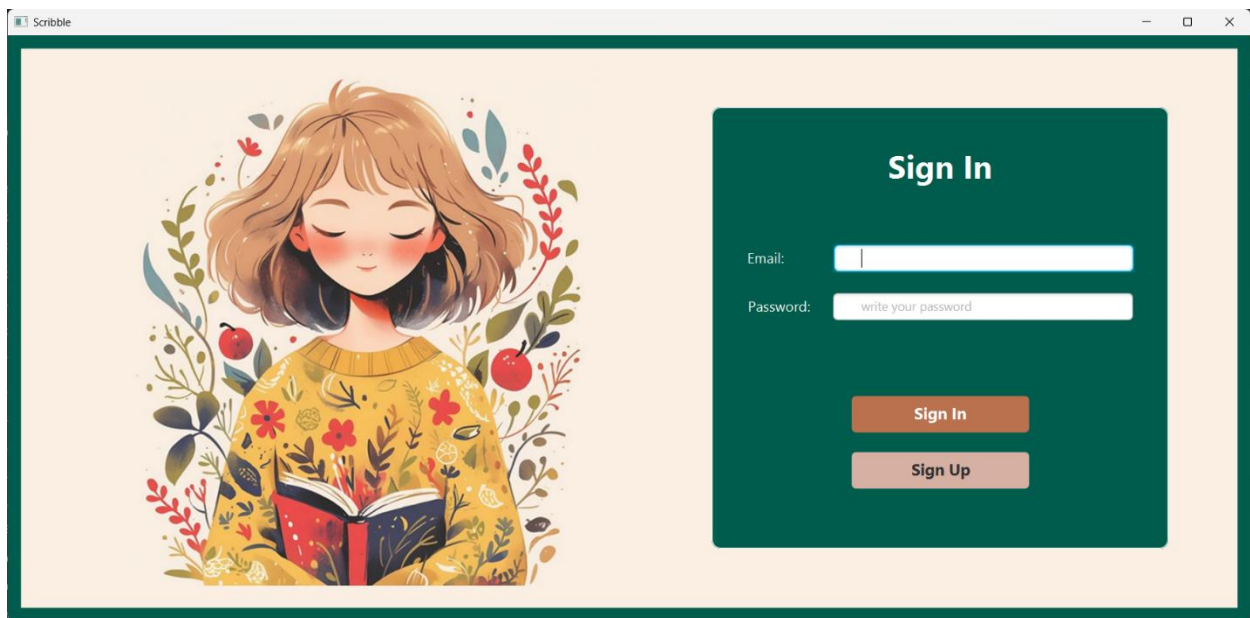
Screenshots of UI

These are the UI design Screenshots of Scribble

SignIn and SignOut page

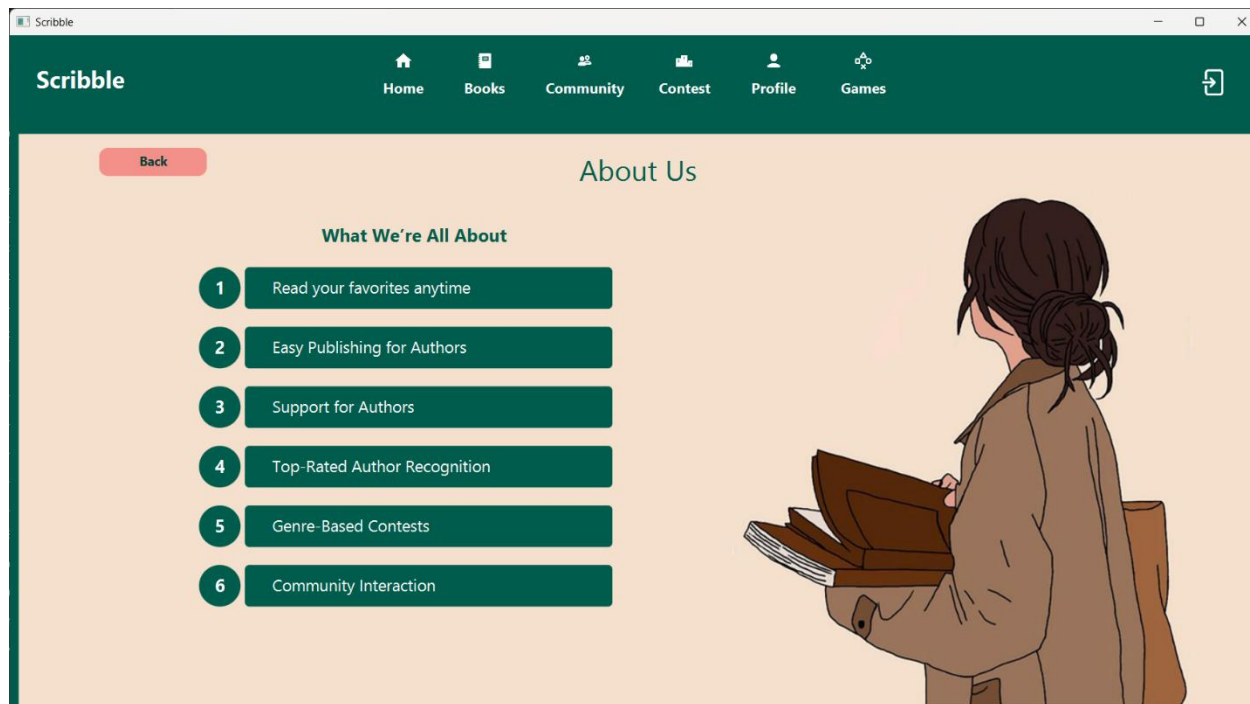
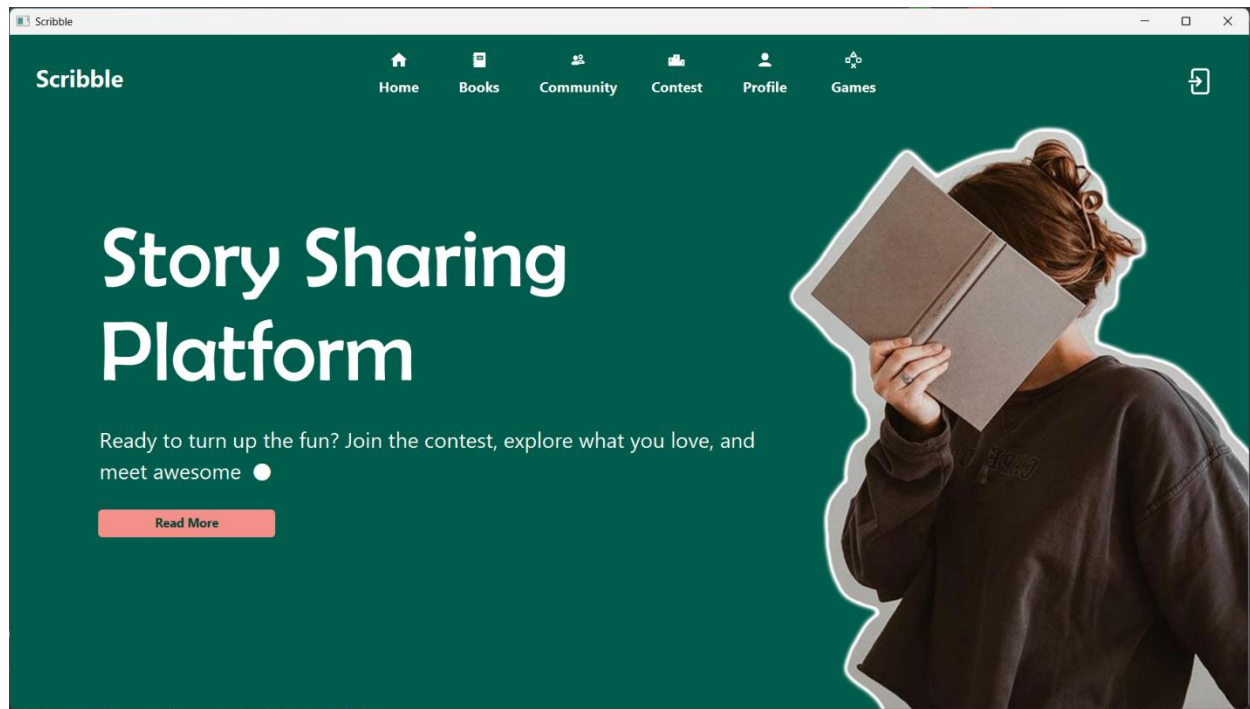


Screenshot of the 'Create an account' page in the Scribble application. The page features a light beige background with a dark green border. On the left, there is a whimsical illustration of a brown book with a heart on its cover, surrounded by various flowers, leaves, and a small cup of coffee. On the right, a dark green card contains the title 'Create an account' in white. Below the title are three input fields: 'Name:', 'Email:', and 'Password:', each with a placeholder text. At the bottom of the card are two buttons: 'Sign Up' and 'Sign In'.

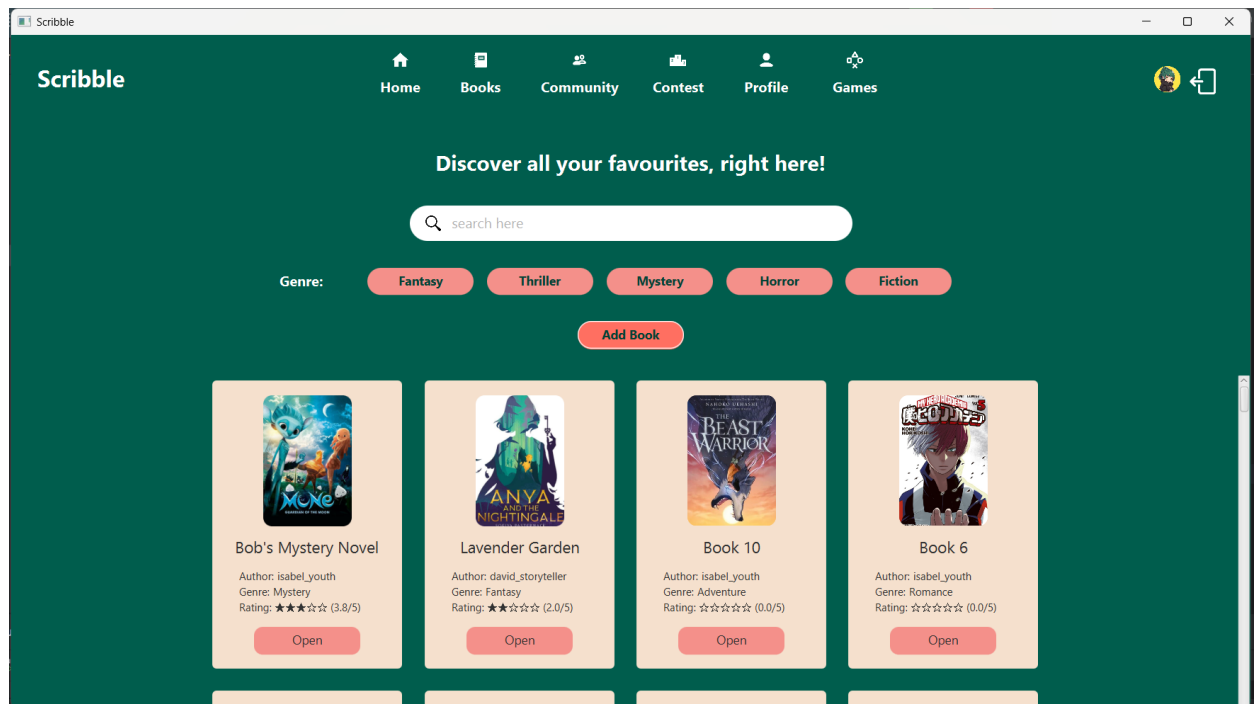
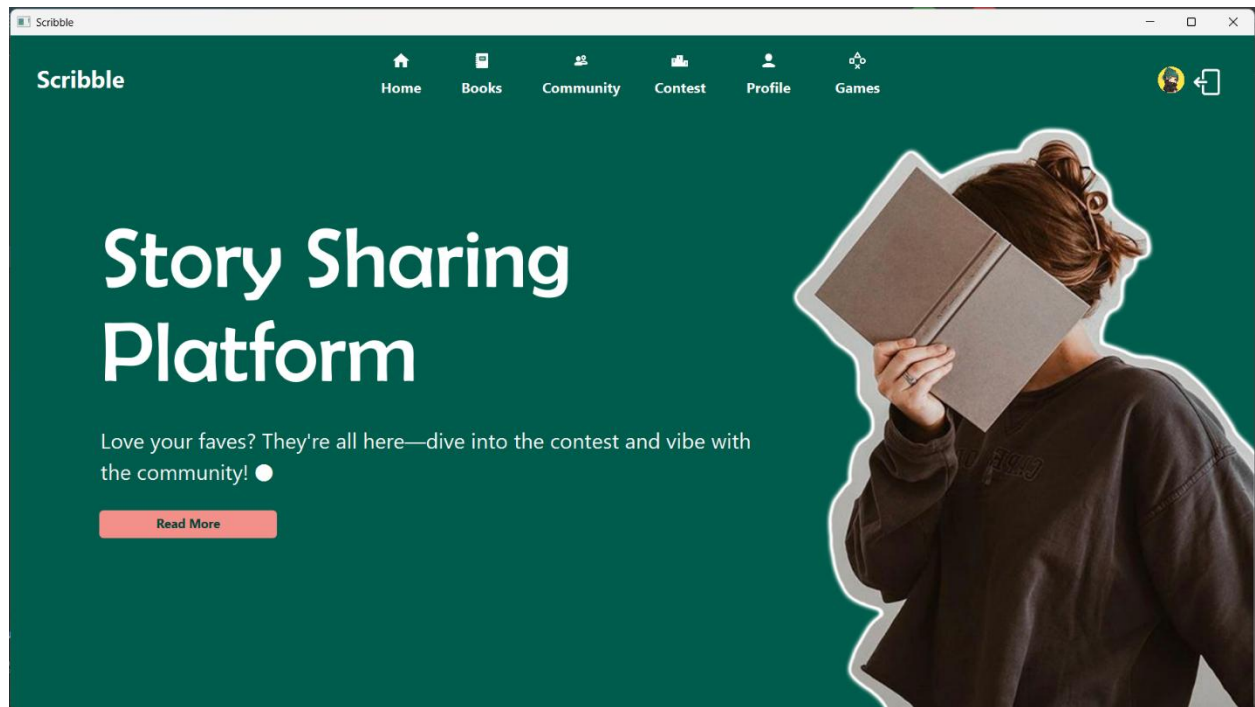


Screenshot of the 'Sign In' page in the Scribble application. The page features a light beige background with a dark green border. On the left, there is a whimsical illustration of a young woman with brown hair, wearing a yellow sweater with a floral pattern, holding an open book. On the right, a dark green card contains the title 'Sign In' in white. Below the title are two input fields: 'Email:' and 'Password:', each with a placeholder text. At the bottom of the card are two buttons: 'Sign In' and 'Sign Up'.

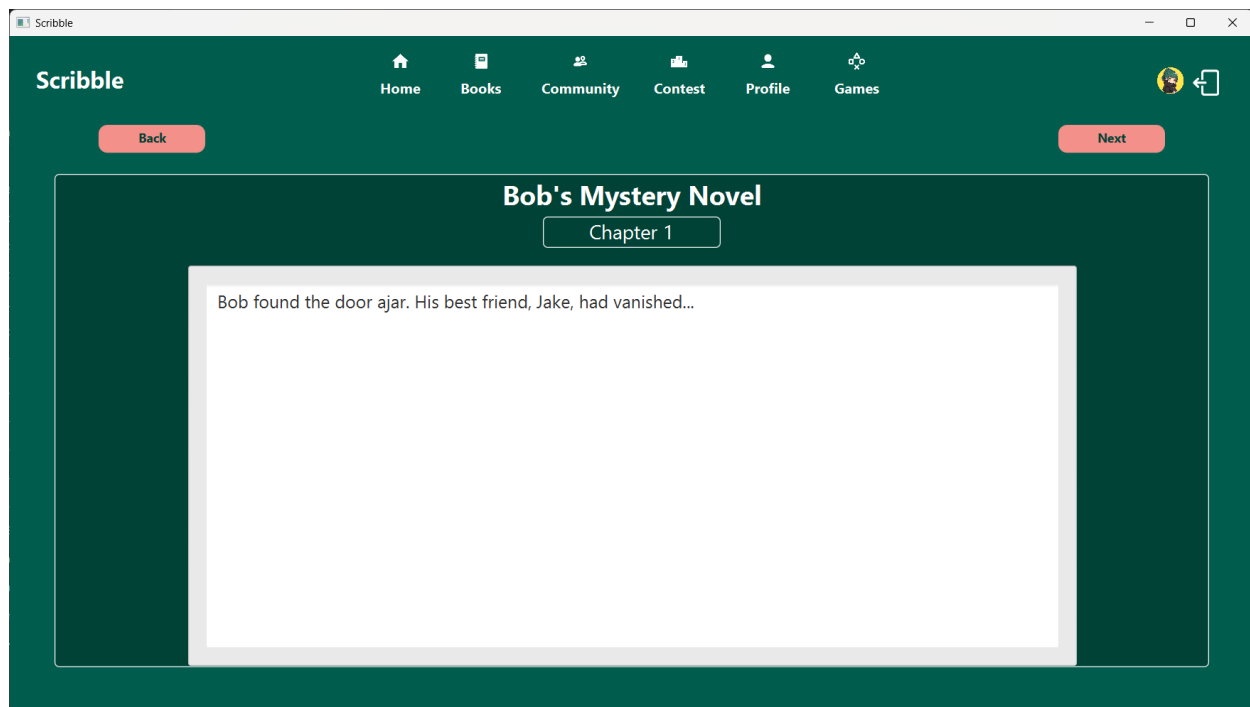
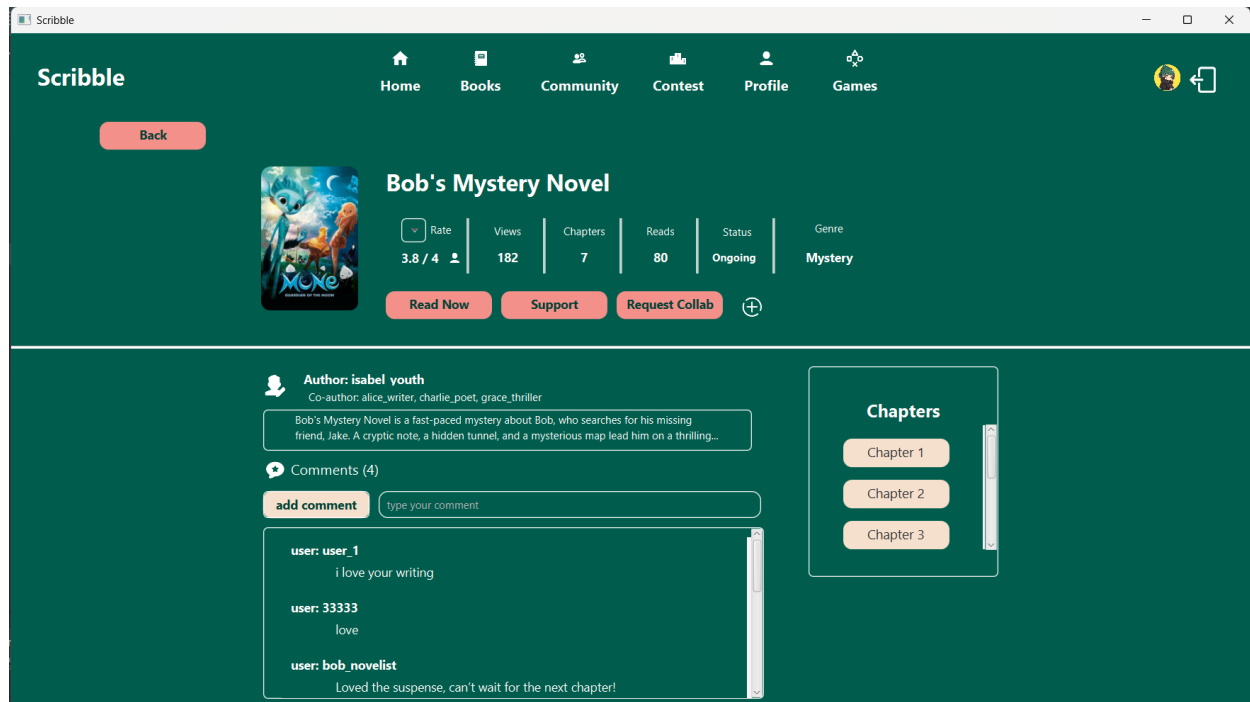
This is the Home page and about page without any user signed in



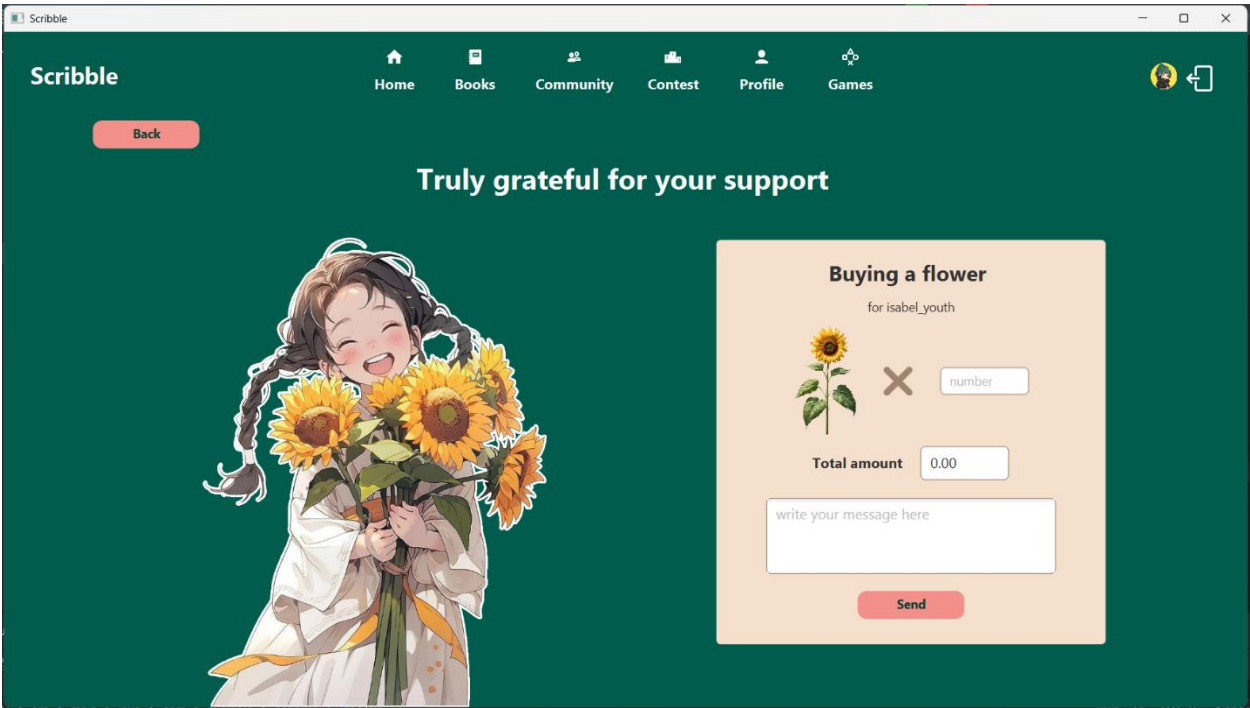
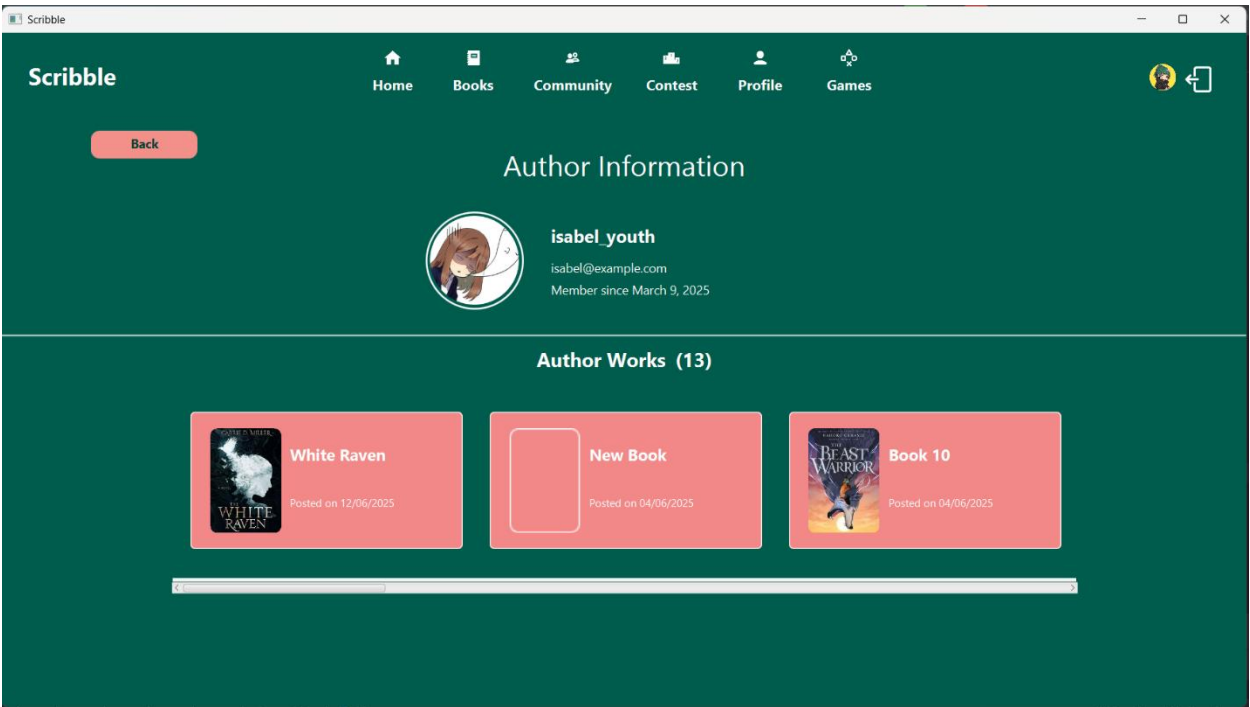
After a user signed in Home page view and Books library view



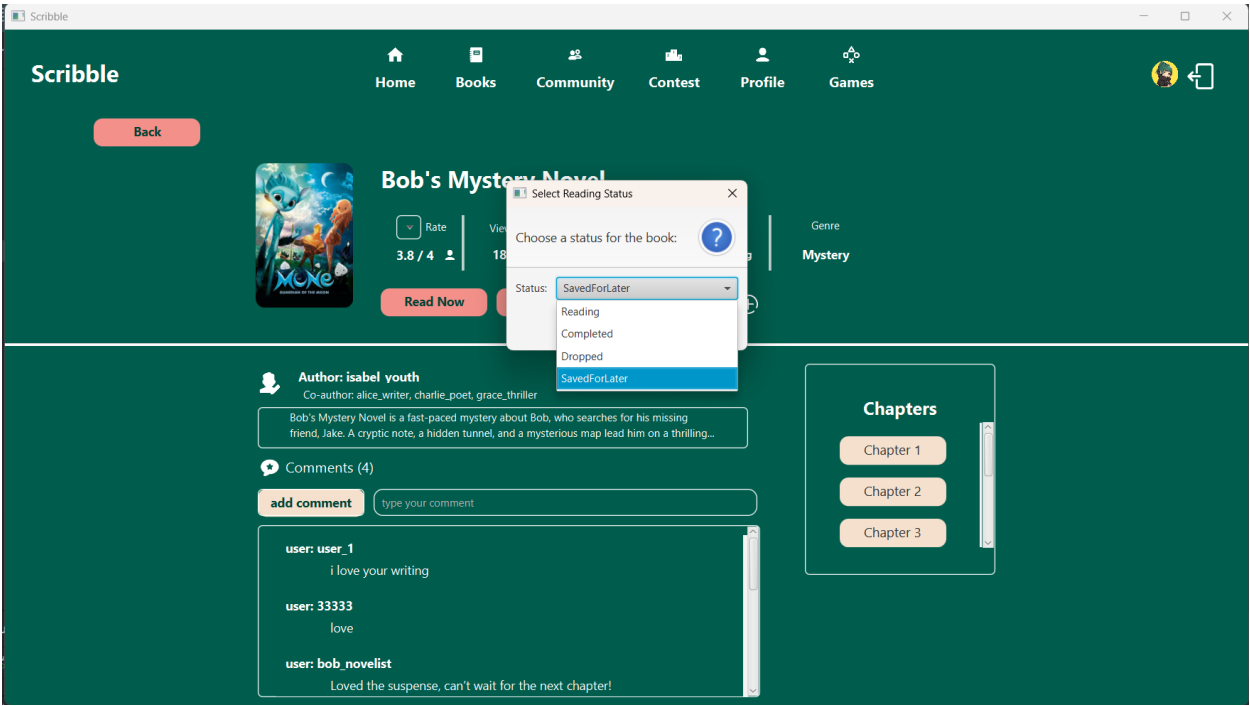
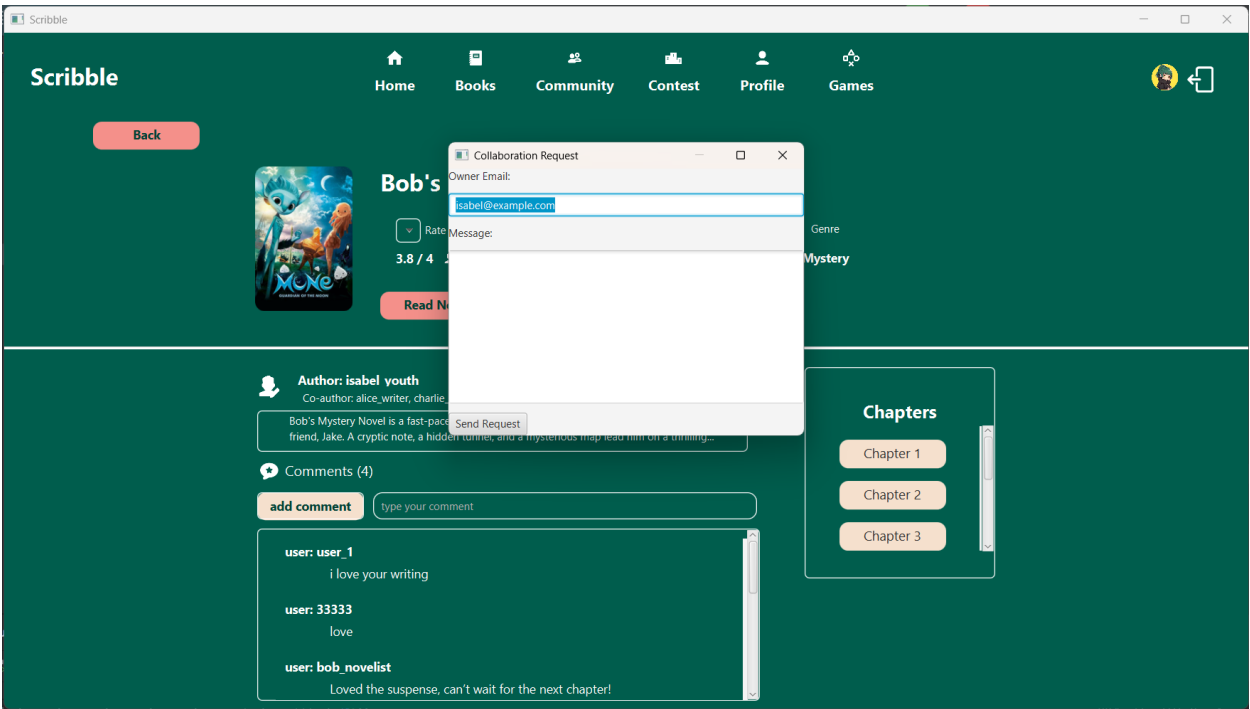
Opening a book and opening the very 1st chapter



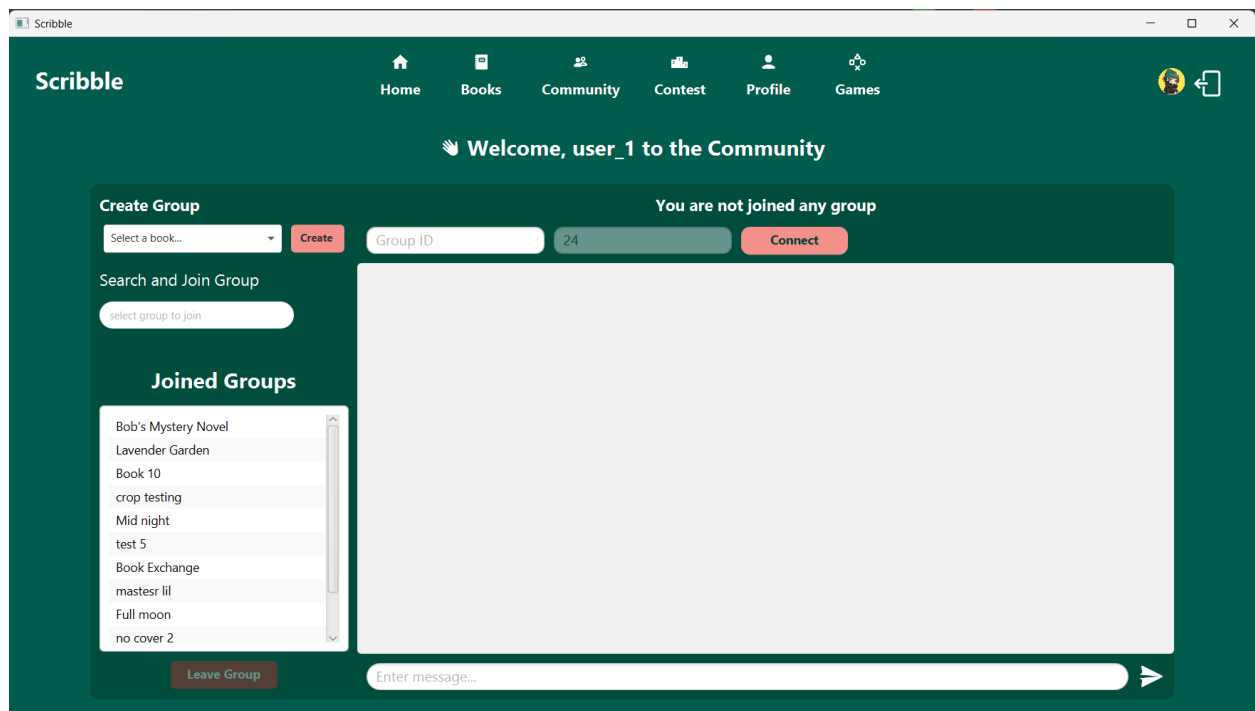
Author profile and supporting page



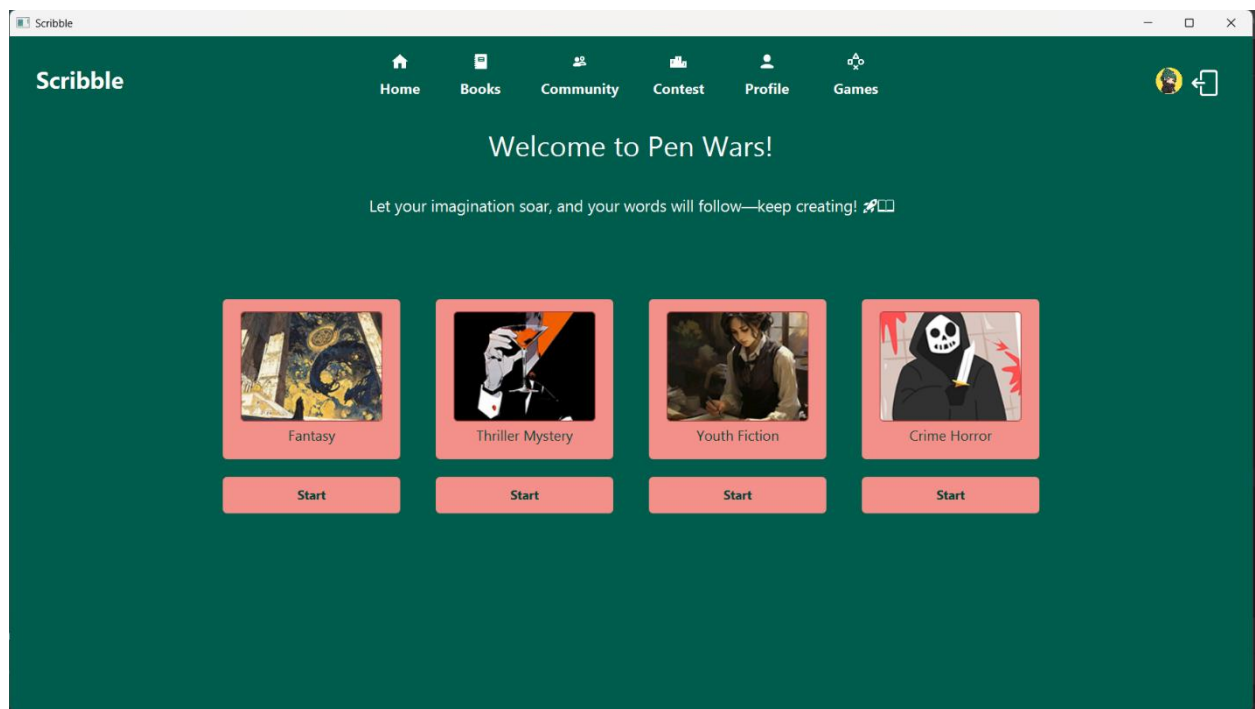
Collaboration and book status view



Community section



Contest section



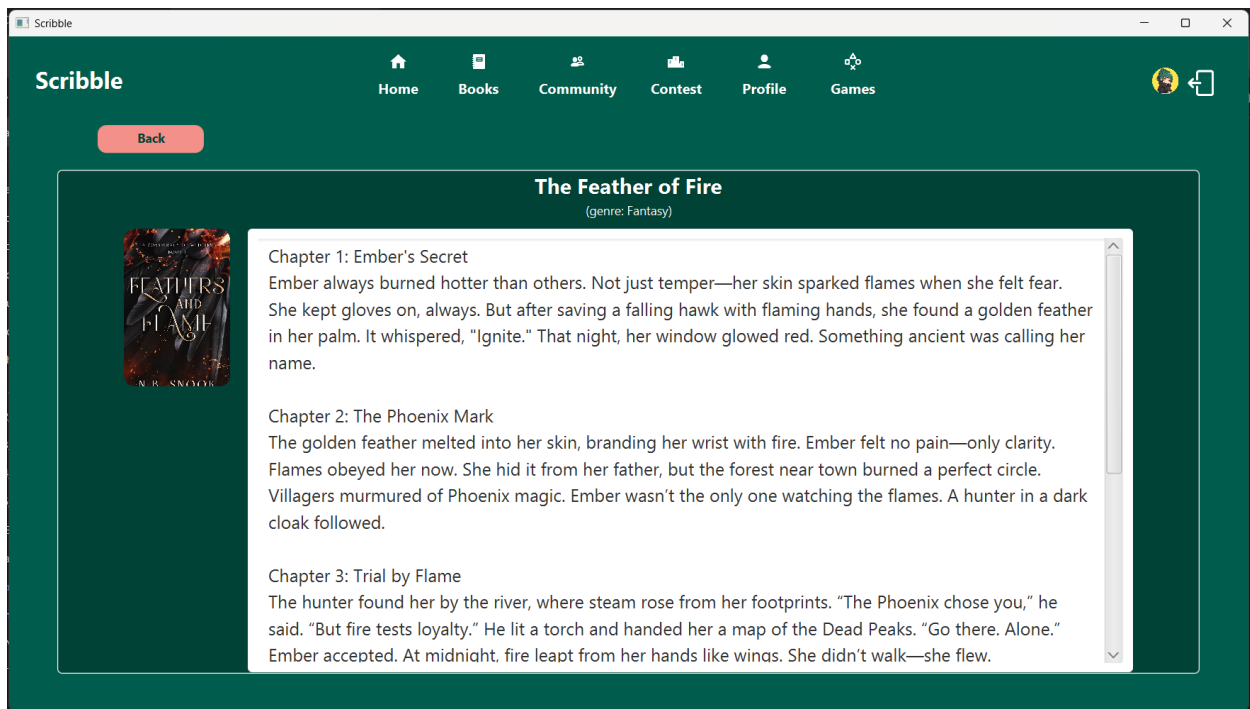
Contest section → Fantasy sub-section view

The screenshot shows the Scribble Fantasy contest section. The header includes navigation links: Home, Books, Community, Contest, Profile, and Games. A 'Back' button is in the top left. The main heading is 'Welcome to the Fantasy section'. Below it, a date range selector shows 'Previous Week' and 'Current Week' (Saturday, 28 June 2025 - Friday, 4 July 2025). A countdown timer indicates 'Next reset in: 0d: 23h: 25m: 11s'. A 'Create your own' button is on the left. A list of three books is displayed, each with a rank, title, author, upload date, star icon, vote count, and an 'open' button. A dropdown menu is open over the first book, showing sorting options: Submission Date (Des), Submission Date (Asc), Book Name (Asc), Book Name (Des), Votes (Asc), and Votes (Des).

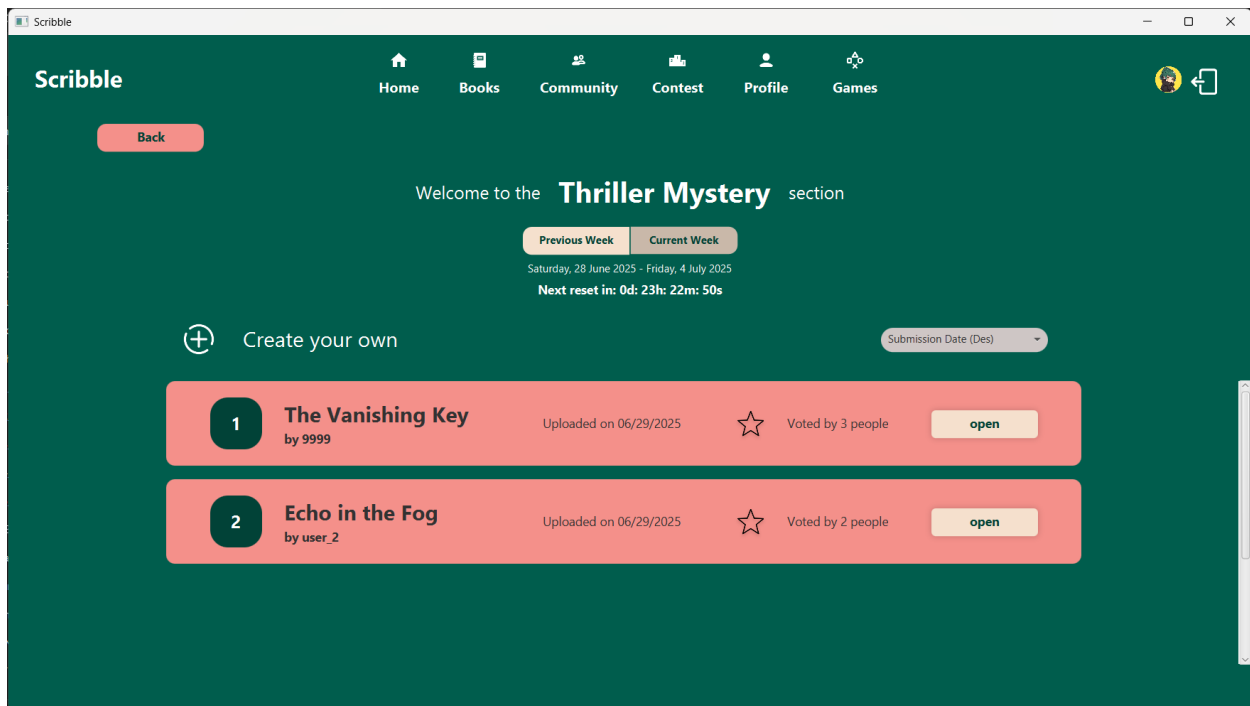
Rank	Book Title	Author	Uploaded on	Voted by	Action
1	The Ember Stone	by 7777	06/29/2025	2 people	
2	The Whispering Woods	by 2020	06/29/2025	2 people	open
3	Moonbound	by 8888	06/29/2025	0 people	open

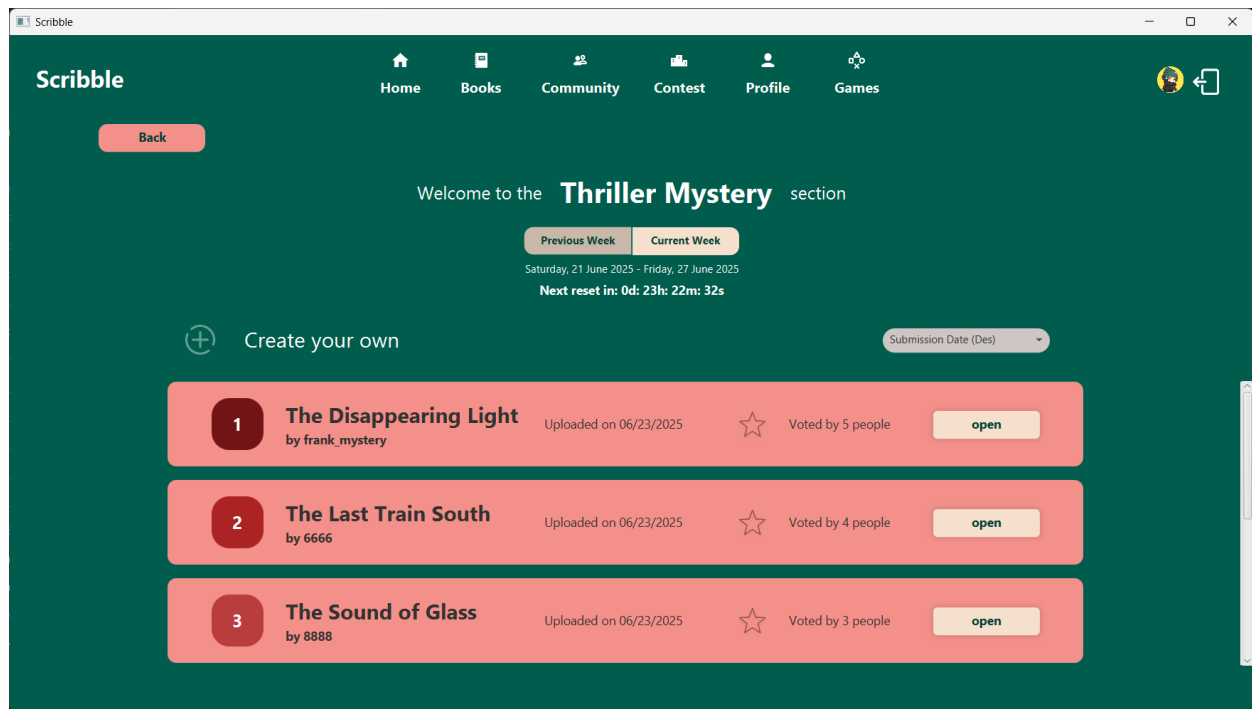
The screenshot shows the Scribble Fantasy contest section for a different week. The header and navigation are the same. The date range is 'Saturday, 21 June 2025 - Friday, 27 June 2025'. The countdown timer shows 'Next reset in: 0d: 23h: 24m: 48s'. The 'Create your own' button is present. A list of three books is displayed. A dropdown menu is open over the first book, showing the same sorting options as the previous screenshot.

Rank	Book Title	Author	Uploaded on	Voted by	Action
1	The Feather of Fire	by user_2	06/23/2025	6 people	
2	The Invisible Prince	by 5555	06/23/2025	4 people	open
3	The Last Leaf of Elwyn	by 33333	06/23/2025	3 people	open

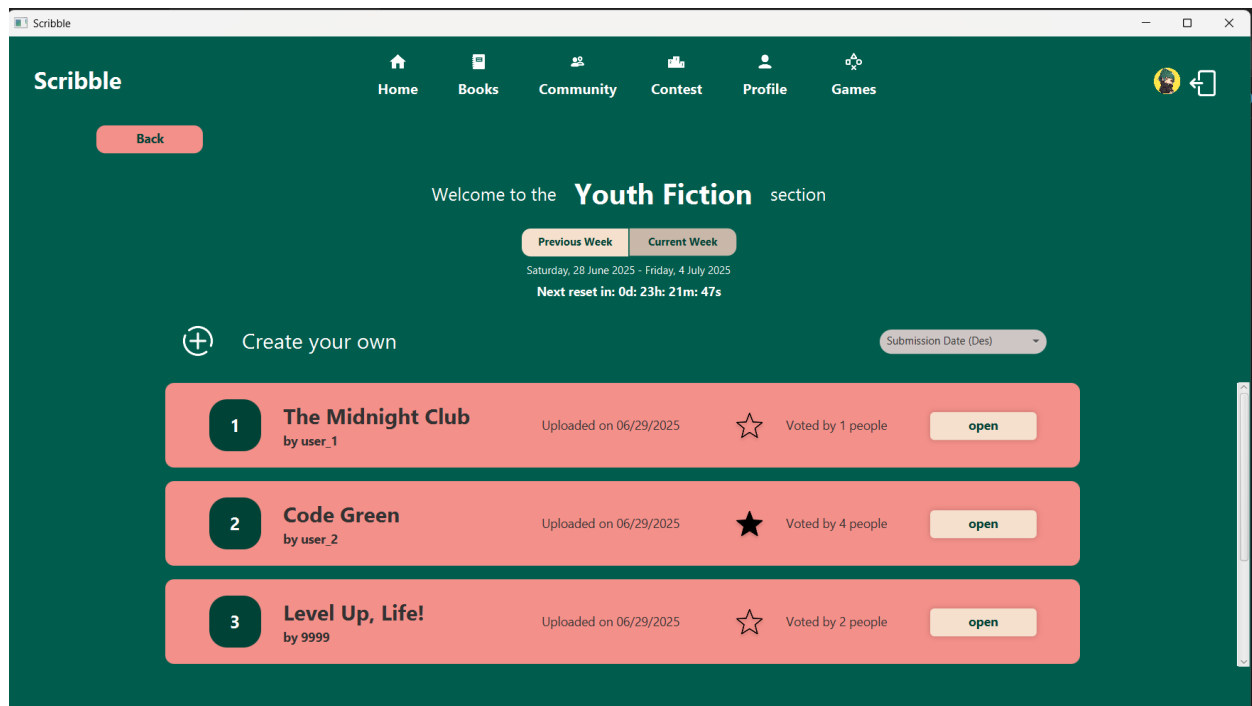


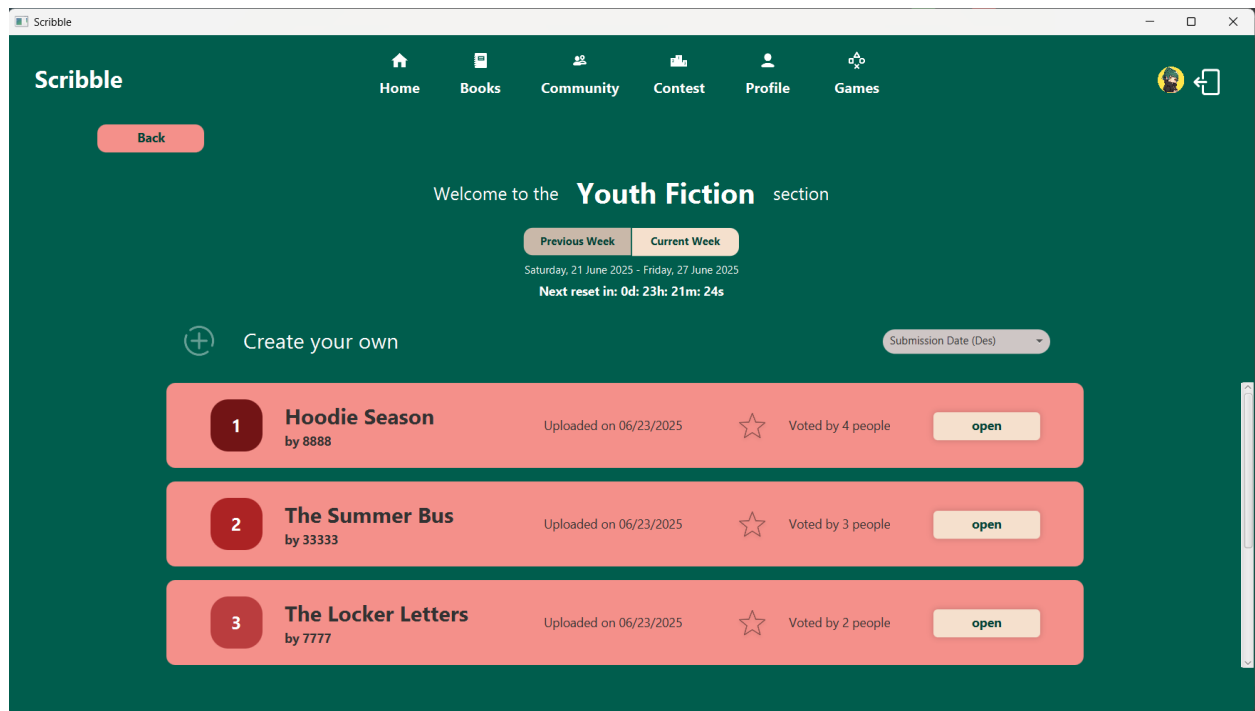
Contest section → Thriller Mystery sub-section view



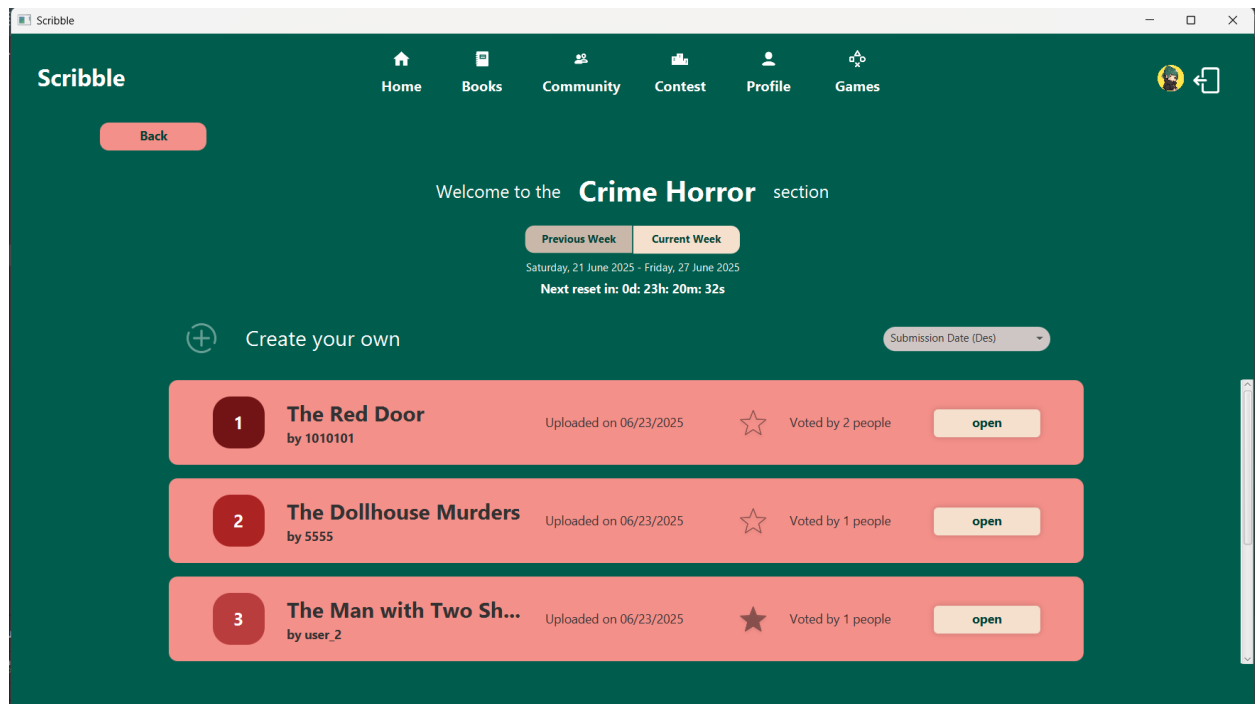


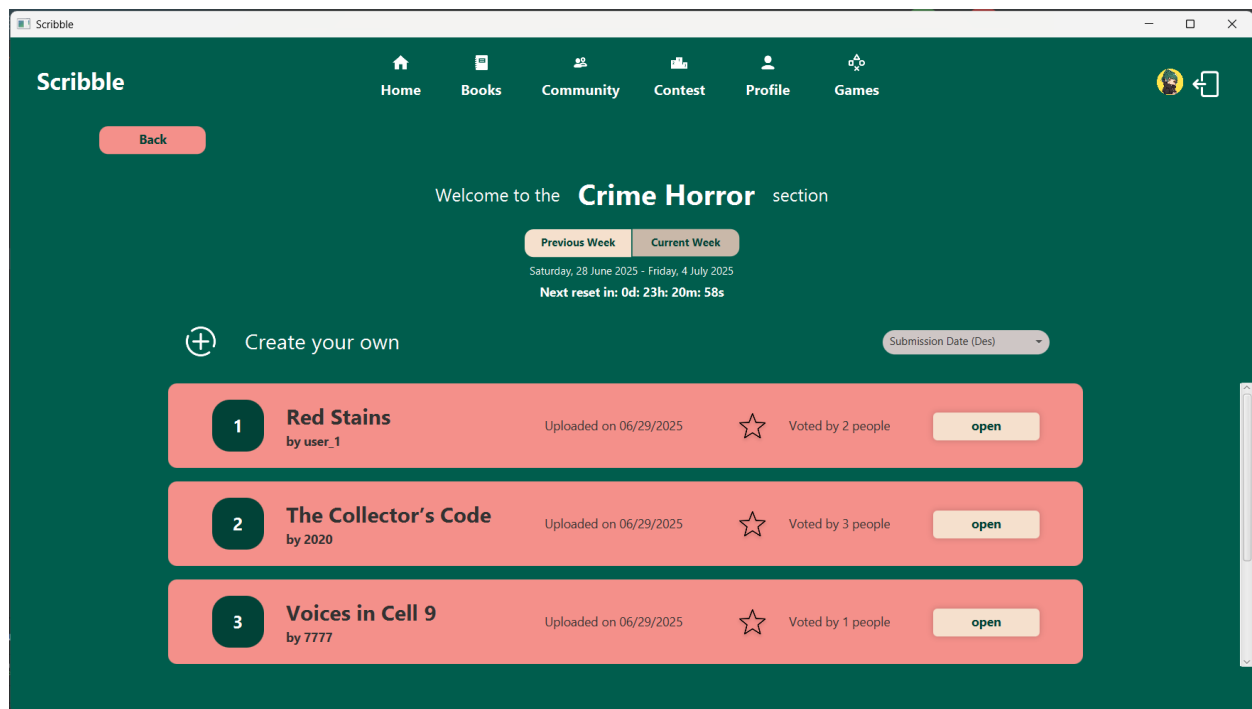
Contest section → Youth Fiction sub-section view



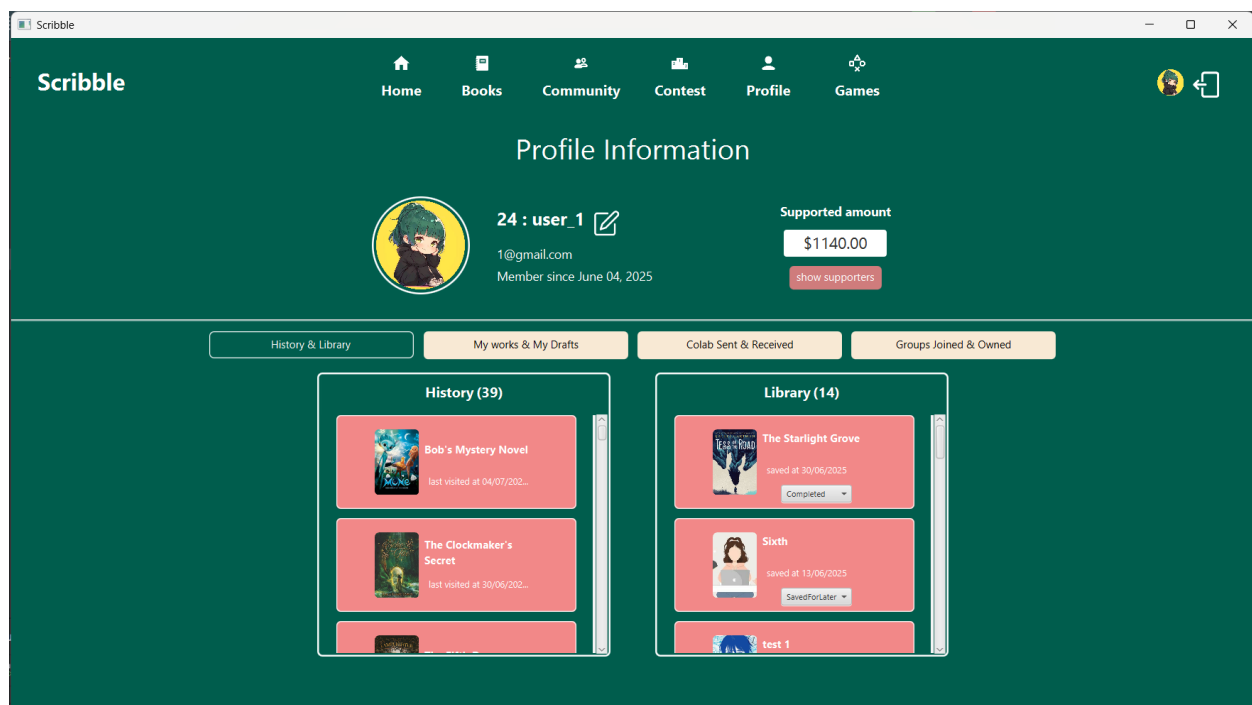


Contest section → Crime Horror sub-section view

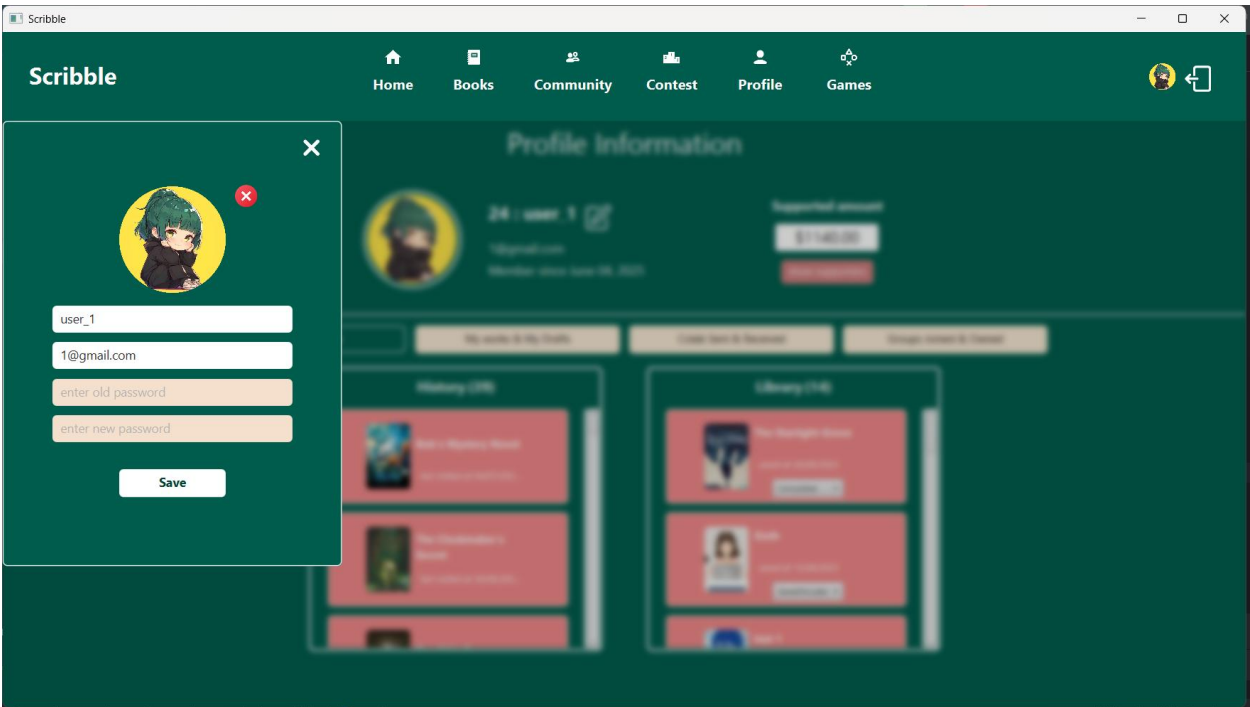




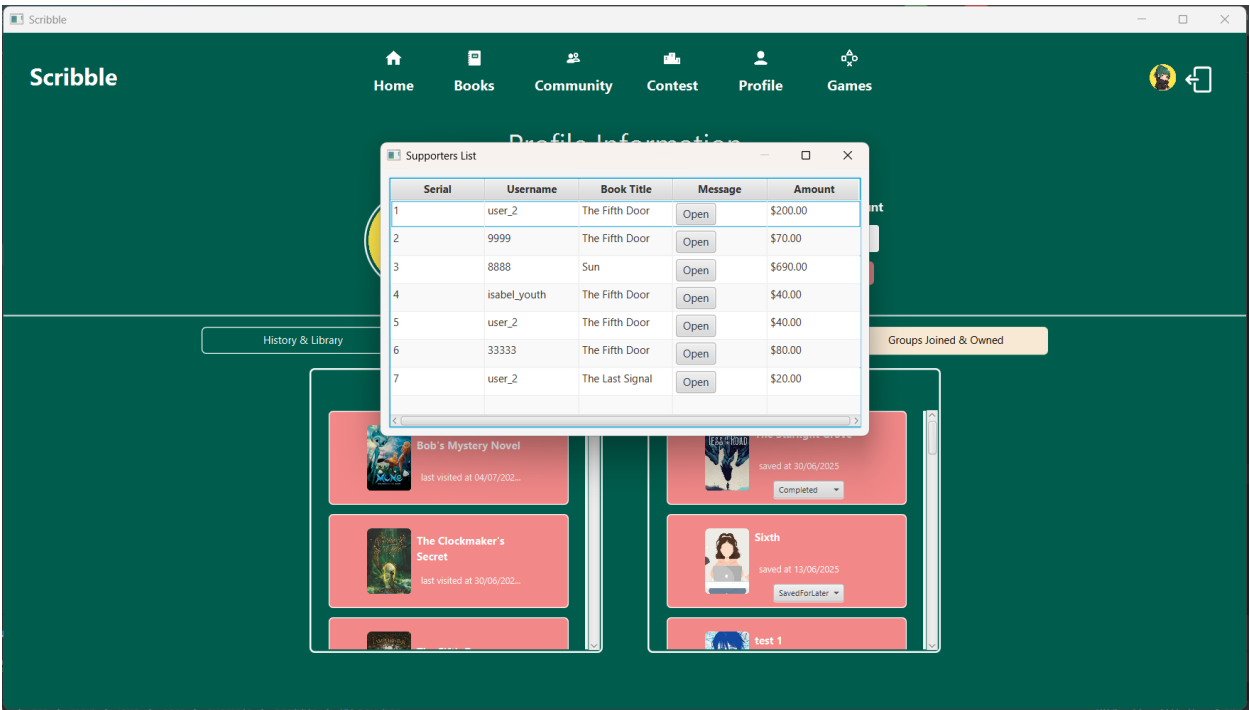
User's Profile view and user history and saved book status records



Profile edit



User's all supporter's info records



User's own created books and their drafts records

The screenshot shows the 'Profile Information' page for user '24 : user_1'. The page has a dark green header with navigation links: Home, Books, Community, Contest, Profile, and Games. The user's profile includes a circular avatar of a character with green hair, the username '24 : user_1', email '1@gmail.com', and 'Member since June 04, 2025'. A 'Supported amount' of '\$1140.00' is displayed with a 'show supporters' button. Below the profile, there are four tabs: 'History & Library', 'My works & My Drafts' (selected), 'Colab Sent & Received', and 'Groups Joined & Owned'. The 'My works & My Drafts' tab is divided into two columns: 'My Works (25)' and 'My Drafts (12)'. The 'My Works' column shows three book covers: 'The Starlight Grove' (posted on 30/06/2025), 'Whispers from the Well' (posted on 30/06/2025), and a partially visible 'The Fifth Door'. The 'My Drafts' column shows three book covers: 'Whispers from the ...' (Updated on 30/06/2025, Chapter 4), 'The Last Signal' (Updated on 30/06/2025, Chapter 5), and 'The Fifth Door'.

User's Collaboration request sent and received records

The screenshot shows the 'Profile Information' page for user '24 : user_1', identical to the previous one. The 'Colab Sent & Received' tab is selected. This tab is divided into two columns: 'Sent (18)' and 'Received (7)'. The 'Sent' column shows three collaboration requests: 'The Starlight Grove' (To: 2@gmail.com, Status: Accepted, Edit Message), 'pokemon 2' (To: 2@gmail.com, Status: Accepted, Edit Message), and 'white 2' (To: 2@gmail.com). The 'Received' column shows three collaboration requests: 'The Last Signal' (From: user_2, View Request, Edit Status), 'The Fifth Door' (From: 33333, View Request, Edit Status), and 'test 1' (From: alice writer).

User's Joined group and owned group records

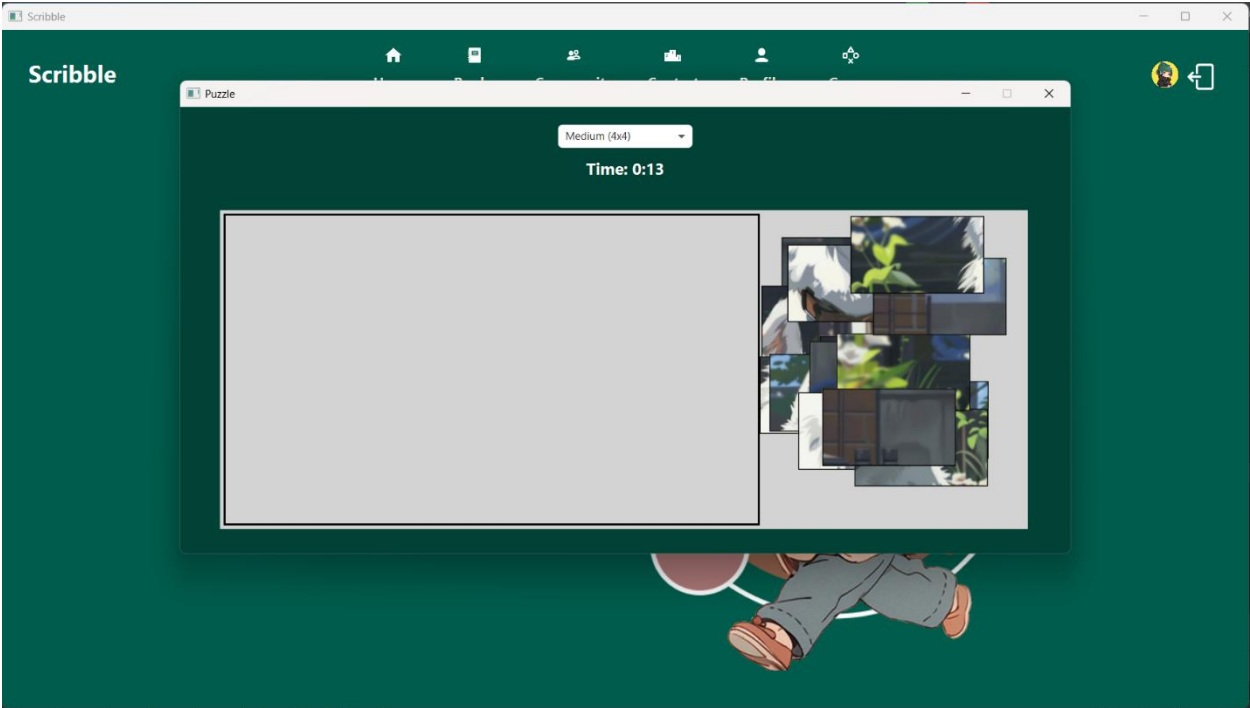
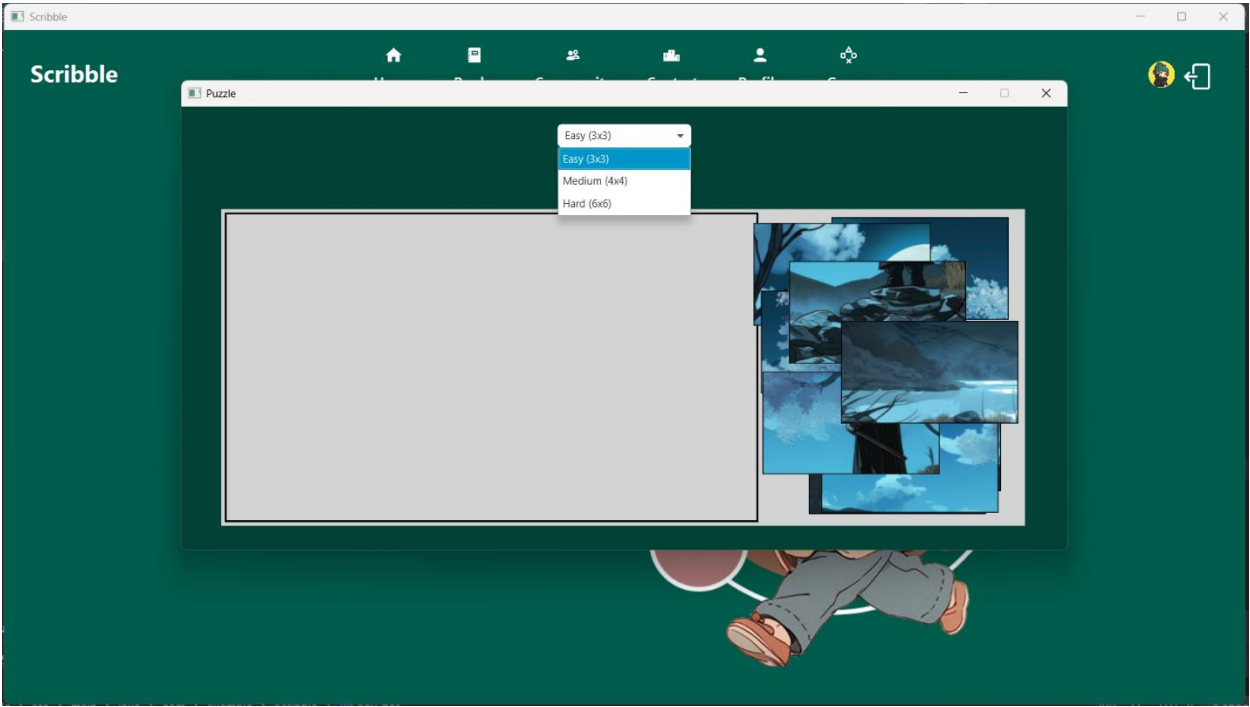
The screenshot shows the 'Profile Information' page for a user named '24 : user_1'. The user's email is '1@gmail.com' and they have been a member since June 04, 2025. Their supported amount is \$1140.00. Below the profile information, there are four tabs: 'History & Library', 'My works & My Drafts', 'Colab Sent & Received', and 'Groups Joined & Owned'. The 'Groups Joined & Owned' tab is selected, showing two columns: 'Joined (12)' and 'Owned (6)'. Each column lists groups with book covers and a 'View Group' button.

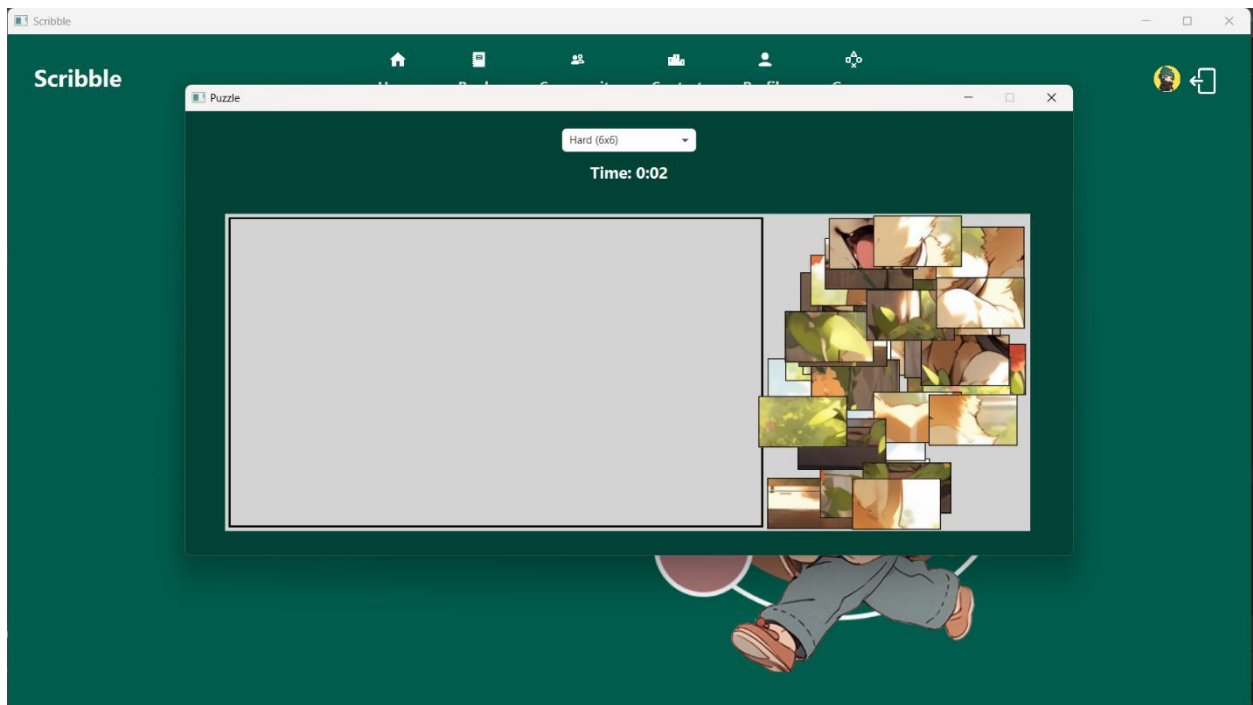
Group Name	Members	Status
1b	2 people joined	Owned
blue as	1 person joined	Owned
no cover 2		

Game section

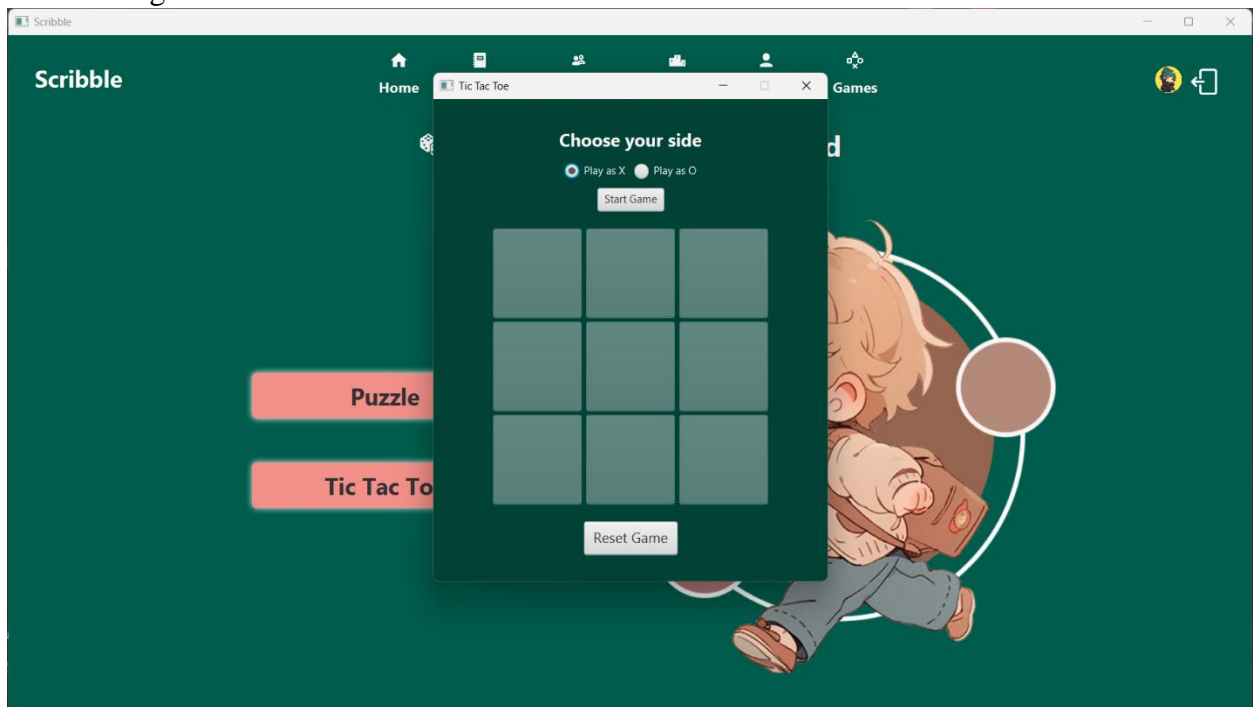
The screenshot shows the 'Games' section of the Scribble app, titled 'The Bookworm's Playground'. It features a large illustration of a cartoon boy with orange hair, wearing a brown jacket and a backpack, running. To the left of the illustration are two buttons: 'Puzzle' and 'Tic Tac Toe'.

Puzzle game view





Tic tac toe game view



Conclusion

Scribble is a community-focused platform that brings together storytelling, collaboration, and real-time interaction. With advanced features like multithreading, socket-based chat systems, and genre-based contests, Scribble is more than just a reading app — it's a creative ecosystem. The inclusion of collaborative tools, support mechanisms, and games ensures that users stay inspired and connected. This project has helped us explore not only the technical dimensions of software development but also the creative and social aspects of building a vibrant digital community.