

BooksExchange

Complete Module Flows Documentation

A Community-Driven Book Swapping Platform with Point-Based Exchange System

Module 1: Authentication & Profile

Flow:

1. Landing Page
2. Sign Up/Login (Email or Google OAuth)
3. Profile Setup (username, location, avatar)
4. Dashboard (shows points balance, my books, activity)
5. Edit Profile (update details, view transaction history)

Key Screens:

- Landing page with 'List Books' and 'Find Books' CTAs
- Login/Signup modal
- Profile setup form
- User dashboard
- Profile edit page with points history

Module 2: Book Listing & Management

Flow:

User clicks 'List a Book' ↓

1. Fill Book Form: Title, Author, Condition (dropdown: New/Like New/Good/Fair/Poor), Description, Upload Photo, Location
2. System generates unique QR code for the book
3. Calculate initial point value based on condition

4. User earns points for listing (+10 points)
5. Book appears in 'My Books' and 'Browse All Books'
6. User can Edit/Delete their listed books
7. When book is exchanged, ownership transfers

Key Screens:

- 'Add Book' form with image upload
- Book detail page showing QR code
- 'My Books' list with edit/delete options
- Book card component (reusable)

Module 3: Point-Based Exchange System

Earning Points:

- List a book → +10 points
- Give away a book (exchange completed) → +points based on book value
- Buy points (payment gateway) → +points purchased

Spending Points:

- Request a book → -points based on book value
- Exchange completed → points deducted

Valuation Logic (Simple Formula):

Points = Base(10) + Condition Multiplier + Demand Bonus

- New = 20 points
- Like New = 15 points
- Good = 12 points
- Fair = 8 points
- Poor = 5 points
- High demand (many wishlists) = +5 points

Prevent Point Farming:

- User A can't immediately exchange back with User B
- Minimum holding period: 7 days before re-listing
- Track exchange history to detect circular patterns

Key Screens:

- Points balance widget (visible everywhere)
- Transaction history page
- Point calculation display on book cards

Module 4: Browse & Discovery

Flow:

1. User lands on 'Browse Books' page
2. See all available books in grid/list view
3. Filter by: Condition, Location/City, Points range, Search by title/author
4. Click book → View details
5. Options: Request Exchange (if have enough points), Add to Wishlist, View QR History, Contact Owner

Key Screens:

- Browse page with filters sidebar
- Search bar with autocomplete
- Book detail modal/page
- Wishlist page

Module 5: Exchange Flow (CRITICAL)

Requester Side:

1. User finds a book they want
2. Click 'Request Exchange'
3. Check if user has enough points
4. If YES → Show confirmation with: Book details, Points to be deducted, Optional message to owner
5. Submit request
6. Status: 'Pending Owner Approval'
7. Wait for owner response

Owner Side:

1. Receive notification of request
2. View requester's profile and message
3. Options: Accept → Exchange begins, Reject → Send reason
4. If accepted → Book status = 'Pending Exchange'

5. Coordinate meetup/shipping
6. Click 'Mark as Exchanged'
7. Points transfer: Owner receives points, Requester loses points
8. Book ownership transfers to requester
9. System prompts requester to add to book history

Key Screens:

- Request modal with point confirmation
- Exchange requests inbox (for owners)
- Exchange status tracker
- 'Complete Exchange' confirmation screen

Module 6: QR Code & Book History

Book Creation:

1. When book is listed → Generate unique QR code
2. Store QR code as: 'BOOK-{uuid}'
3. Display QR on book detail page
4. Owner can download/print QR sticker

Scanning QR (or viewing history):

1. User clicks 'View History' or scans QR
2. Shows book's complete journey: Original lister, All previous readers, Cities it traveled through, Reading durations, Notes left by readers
3. Timeline view (chronological)
4. Current owner can add their entry: City where they read it, How long they kept it, Notes/tips for next reader
5. History saved permanently (even if user deleted)

Key Screens:

- QR code display with download button
- Book history timeline (beautiful visual)
- 'Add to History' form
- QR scanner page (use device camera or manual ID entry)

Module 7: Wishlist & Alerts

Flow:

1. User adds book to wishlist (heart icon)
2. Book saved in 'My Wishlist'
3. If book becomes available nearby: Send notification (email or in-app)
4. User can remove from wishlist anytime

Key Screens:

- Wishlist page (grid of saved books)
- Heart icon on book cards (filled if wishlisted)

Module 8: Exchange Points (Physical Locations)

Add Exchange Point:

1. User clicks 'Add Exchange Point'
2. Fill form: Name (e.g., 'Central Library Stall'), Address, City, Contact info, Optional: Operating hours
3. Submit → Appears in exchange points list

Browse Exchange Points:

1. User clicks 'Exchange Points'
2. See list of all exchange points
3. Filter by city
4. Click to view details and contact info
5. Optional: Show on simple static map (not real-time)

Key Screens:

- Exchange points list page
- Add exchange point form
- Exchange point detail card with contact info

Module 9: Payment Gateway (Mock/Basic)

Flow:

1. User has insufficient points for a book
2. System shows 'Not enough points. Buy more?'
3. User clicks 'Buy Points'
4. Choose package: 50 points = \$5, 100 points = \$9, 200 points = \$15
5. Redirect to payment page (Stripe/Razorpay)
6. Complete payment
7. Points added to account
8. Transaction recorded

For 8-hour hackathon: Mock the payment (show UI but don't actually charge) OR integrate Stripe test mode only

Module 10: Book Forums (Simplified)

Simplified Version (Not full forum):

1. Each book has a 'Discussions' tab
2. Users can: Post comments/thoughts, Reply to others, Upvote useful comments
3. Anonymous option: User can toggle 'Post as Anonymous'
4. Moderation: Flag inappropriate content
5. Show top discussions on book detail page

For 8 hours: Skip complex forum, just add comment section

Key Screens:

- Discussion tab on book page
- Comment input with anonymous toggle
- Comment thread view

Module 11: In-App Messaging (Simplified)

Basic Implementation:

1. User clicks 'Contact Owner' on book page
2. Opens chat modal
3. Send message (real-time via Supabase)
4. Owner receives notification
5. Conversation thread appears in 'Messages' page
6. Both can chat about book exchange details

For 8 hours: Simple chat, not full messaging system

Key Screens:

- Chat modal/page
- Messages inbox
- Conversation thread

Module 12: Notifications

Notification Triggers:

- Someone requests your book
- Your request is accepted/rejected
- Wishlisted book becomes available
- Exchange point added in your city
- New message received

Implementation:

- In-app notifications badge
- Email notifications (via Supabase)
- Optional: Push notifications (skip for hackathon)

Key Screens:

- Notification bell icon with count
- Notifications dropdown/page