

CityShare

Sprint 1 Deliverables

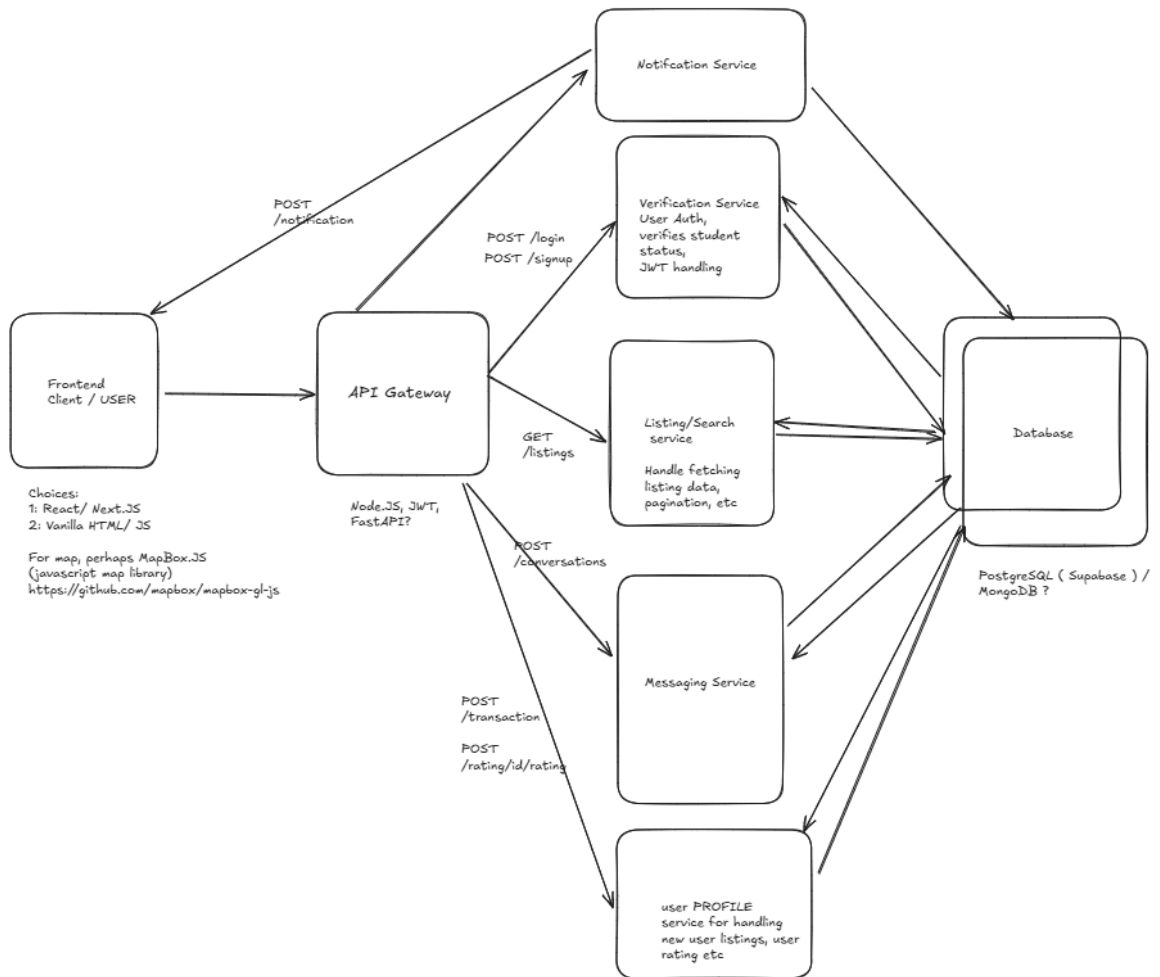
CS 160-03: Software Engineering

Team 2

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Architectural document



DATABASE SCHEMA

1. ****User****

- id (PK)
- name
- email (unique)
- password_hash
- verified (boolean)
- student_id_doc (optional, file path or URL)
- profile_info (bio, avatar, etc.)
- avg_rating_condition (decimal)
- total_ratings_count (int)
- rating_updated_at (timestamp)

2. ****Listing****

- id (PK)
- owner_id (FK to User)
- title
- description
- category (enum: e.g., Tools, Books, etc.)
- mode (enum: Borrow, Free, Sell)
- location_lat
- location_lon
- created_at
- price (nullable)
- status (active, closed, etc.)

3. ****Conversation****

- id (PK)
- listing_id (FK to Listing)
- user1_id (FK to User)
- user2_id (FK to User)
- created_at

4. ****Message****

- id (PK)
- conversation_id (FK to Conversation)
- sender_id (FK to User)
- content
- sent_at

5. ****Transaction****

- id (PK)
- listing_id (FK to Listing)
- borrower_id (FK to User)
- lender_id (FK to User)
- start_date
- end_date
- status (pending, completed, cancelled)

6. ****Rating****

- id (PK)
- transaction_id (FK to Transaction)
- to_user_id (FK to User)
- from_user_id (FK to User)
- score_on_time (int)
- score_condition (int)
- comment
- created_at

7. ****Wishlist****

- id (PK)
- user_id (FK to User)
- keywords
- category
- radius_km
- location_lat
- location_lon
- created_at

8. ****VerificationJob****

- id (PK)
- user_id (FK to User)
- submitted_at
- status (pending, approved, denied)
- reviewed_at
- reviewer_id (FK to User, nullable)

****Relationships****

- User owns many Listings
- User can have many Wishlists
- Listing can have many Conversations
- Conversation contains many Messages
- Transaction links a Listing with a Borrower and Lender
- Transaction can have one or more Ratings

Use Cases Description

UC-01 Sign Up

Actor: New User

Goal: Create an account to use the app

Pre: Not logged in

Trigger: Click "Create account"

Flow: Fill form → validate → check duplicate → hash & save → start session

Alts: Email exists; weak password; server error

Post: Account created (hashed), user logged in

UC-02 Sign In

Actor: Existing User

Goal: Access account

Pre: Not logged in, Existing Account

Trigger: Click "Log In"

Flow: Fill form → validate → check user/password → start session

Alts: Wrong Credentials; No existing Account; server error

Post: User logged in

UC-03 Search Listings

Actor: Existing User, New User, Anyone

Goal: Find and View items

Pre: Service is online, user has access to the home page

Trigger: Click "Search"

Flow: Fill form → Apply Filters → System Validation of Query → System sends query to backend → System receives answer → homepage displays listings

Alts: No listings; No matches for search, server error

Post: Results are displayed; (if logged in), the User might contact the poster

UC-04 In-App Messaging

Actor: Existing User

Goal: Contact another user about a listing

Pre: Service is online, user is logged in, listing is available

Trigger: Click "Contact" on the details page

Flow: System opens message window → User composes message → System creates conversation and saves message → Poster is notified

Alts: User not logged in, Post is unavailable, server error

Post: Conversation is created; Users can continue the conversation.

UC-05 User Verification

Actor: Existing User, Verification Service, Admin Reviewer

Goal: Verify the user's identity and display a "Verified" badge.

Pre: User Account Exists, Profile Exists, and has not been verified yet, Verification Feature is available.

Trigger: User clicks "Verify Account" from profile

Flow: User clicks "Verify Account" button on profile → Verify Window is displayed → User selects a method (ID / SJSU ID) → User provides information → System validates input and creates a validation request → Admin reviews request (approved/denied) → User is notified of resolution and badge is displayed on profile and visible to community.

Alts: Unreadable, wrong information provided, verification failed, Service is unavailable, user cancels, User account deleted.

Post: User verification status is updated and badge is visible to community members; Record of verification is created in System; If failed, user is informed and profile continues as not verified (Retry Available)..

UC-06 User Rating

Actor: Existing User.

Goal: Rate and review another user after a transaction or interaction.

Pre: User is logged in, has completed a transaction/interaction with another user, has not already rated this specific interaction.

Trigger: User clicks "Rate User" after a completed transaction or from conversation history

Flow: User selects rating (1-5 stars) → User writes optional review text → System validates input → System saves rating and updates recipient's overall rating → Rated user is notified → Rating appears on rated user's profile.

Alts: User not logged in; No completed transaction; Already rated this interaction; Invalid rating value; Server error; Inappropriate content detected

Post: Rating is saved and visible on user's profile; Overall rating score is updated; Transaction is marked as rated; Notification sent to rated user

UC-07 Wishlist

Actor: Existing User.

Goal: Save desired items to a wishlist and receive notifications when similar items are posted

Pre: User is logged in, item listing exists and is available.

Trigger: User clicks "Add to Wishlist" on item details page or search results

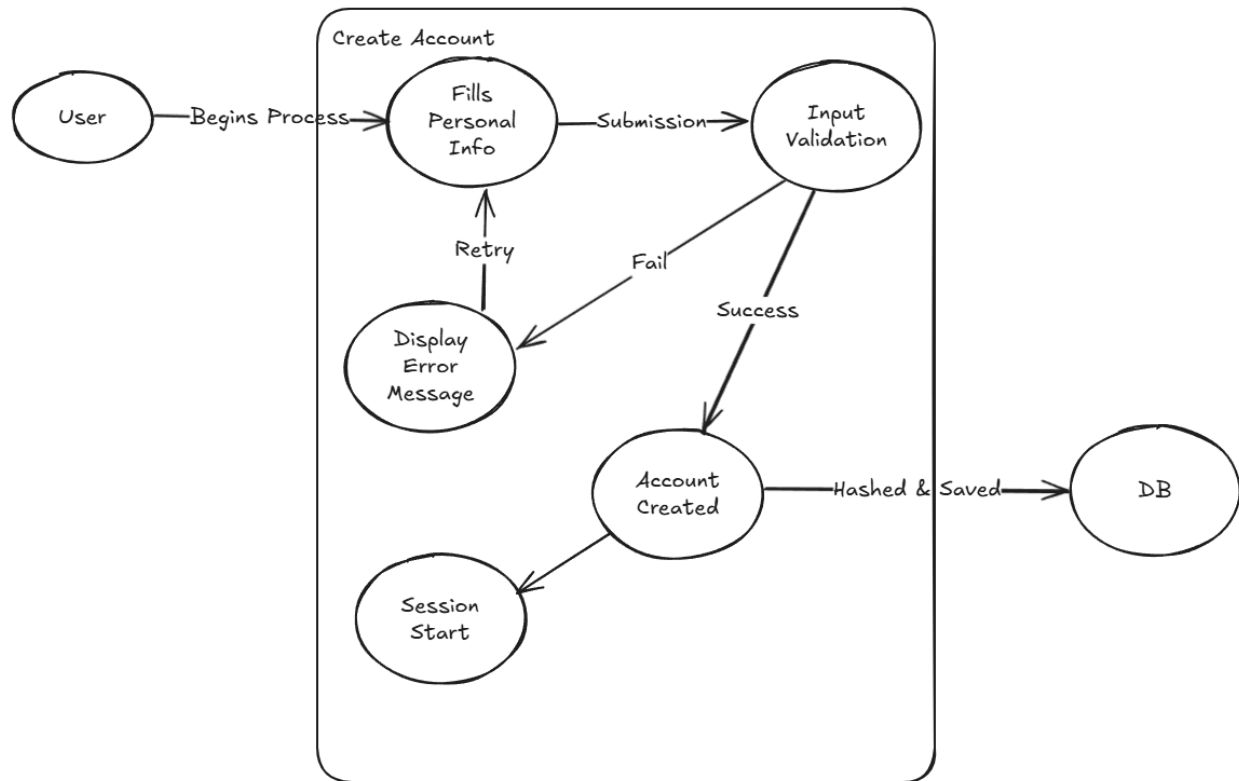
Flow: User clicks wishlist button → System adds item to user's wishlist → System sets up alert criteria based on item category/keywords → User receives notification when similar items are posted → User can view and manage wishlist from profile.

Alts: User not logged in; Item no longer available; Item already in wishlist; Wishlist full (if limit exists); Server error.

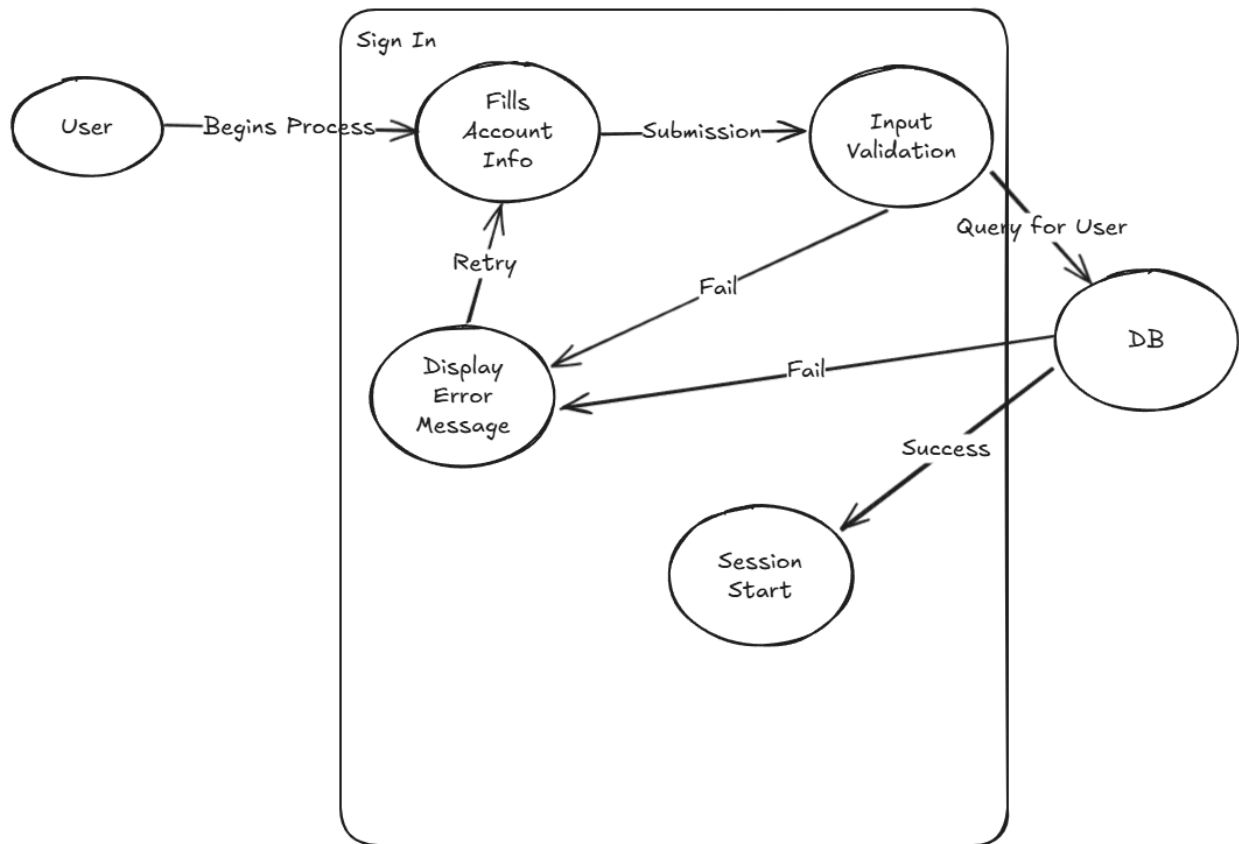
Post: Item added to user's wishlist; Alert criteria saved; User will receive notifications for similar items; Item accessible from wishlist page.

Use Case Diagrams

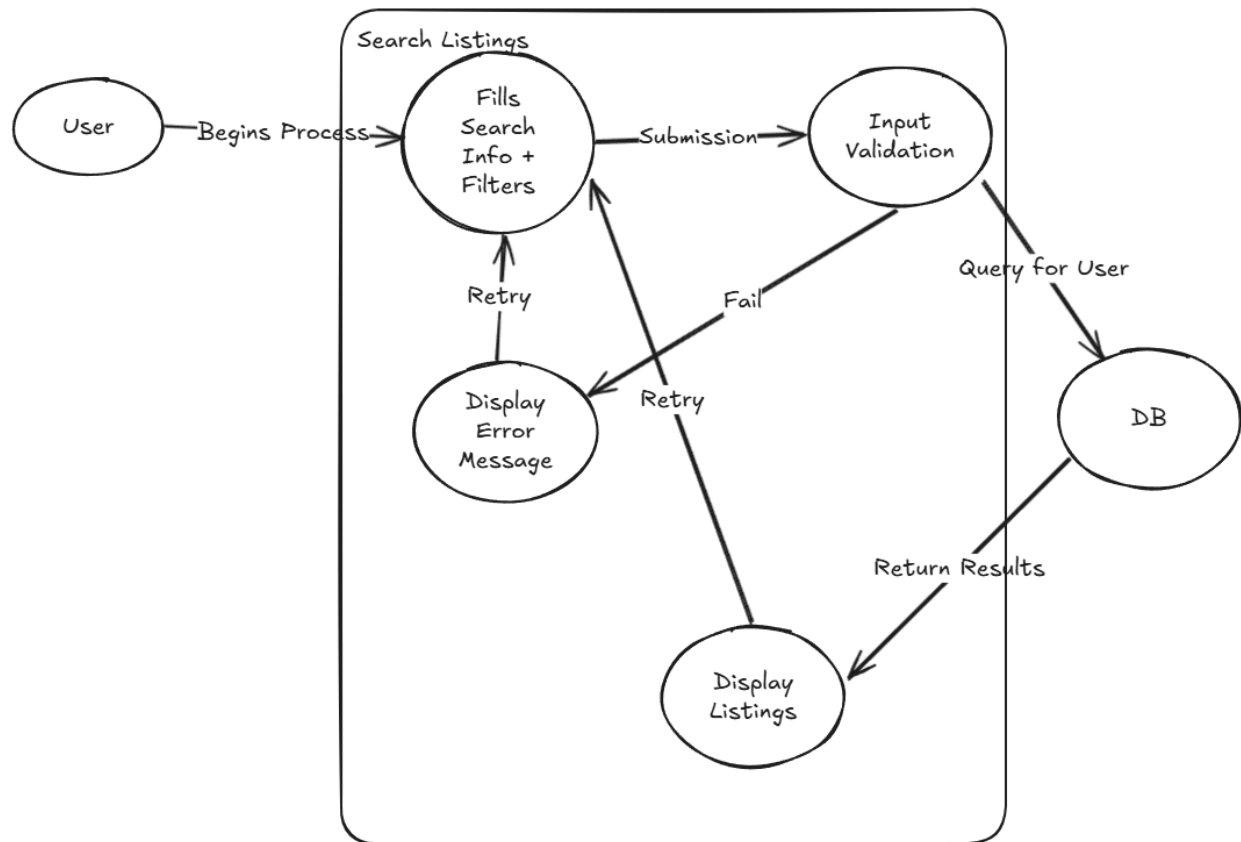
UC-01 Sign Up



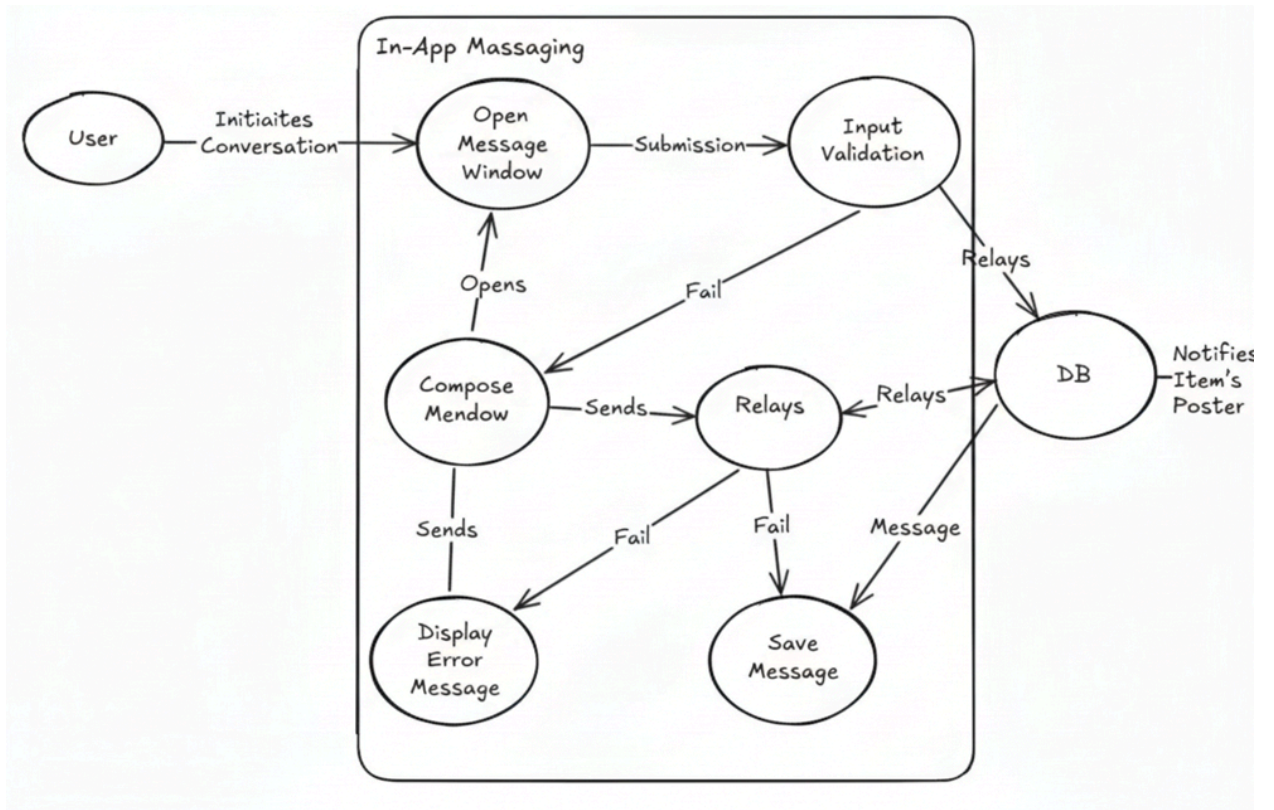
UC-02 Sign In



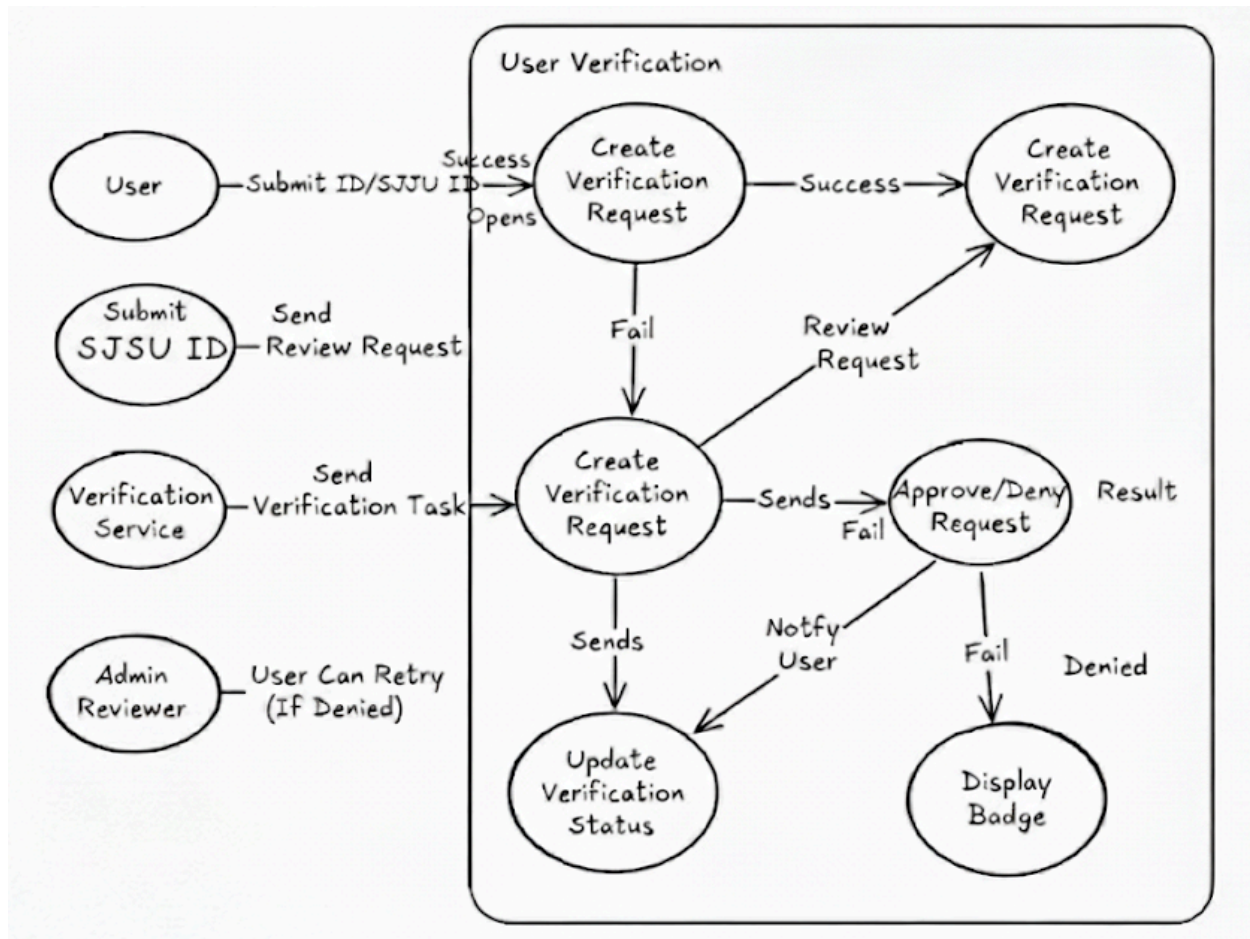
UC-03 Search Listings



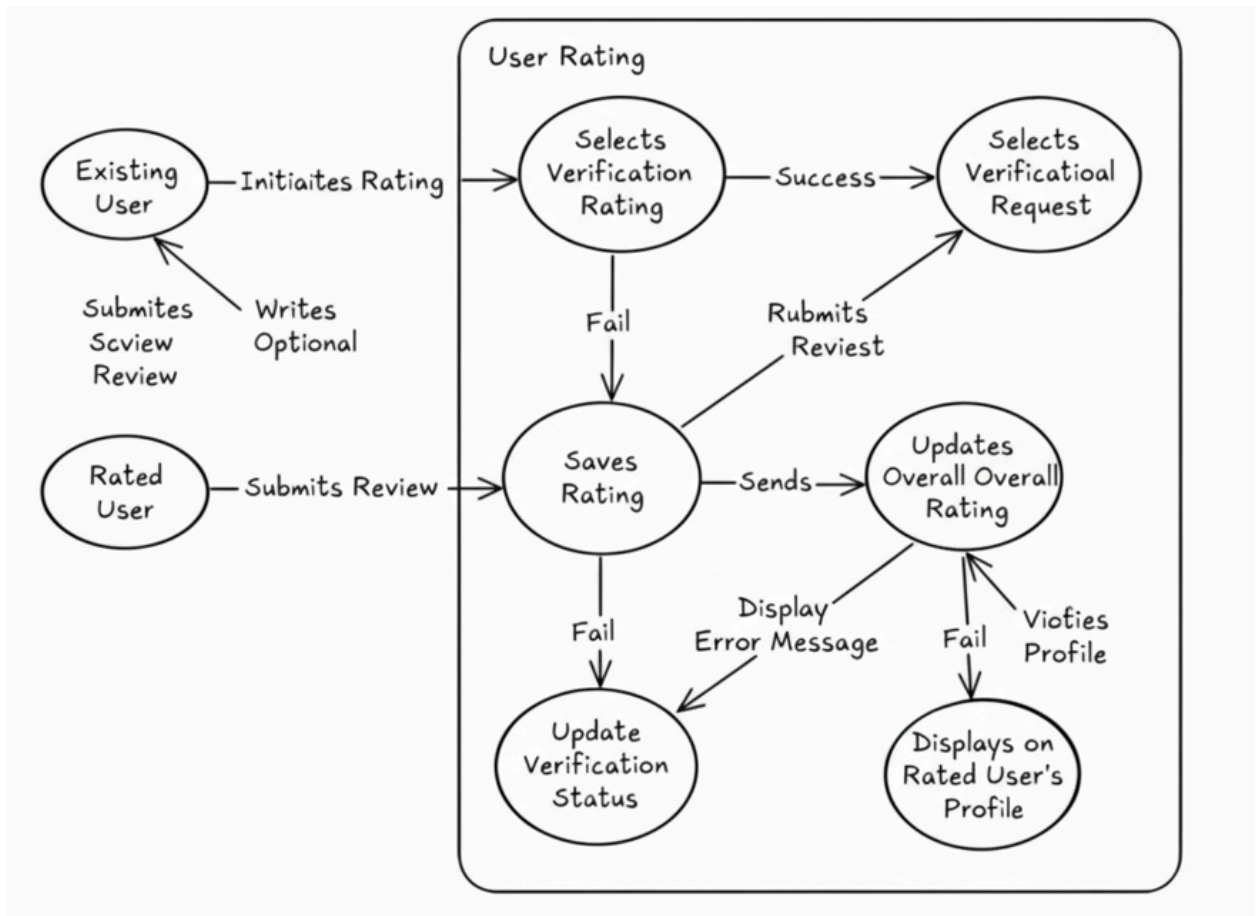
UC-04 In-App Messaging



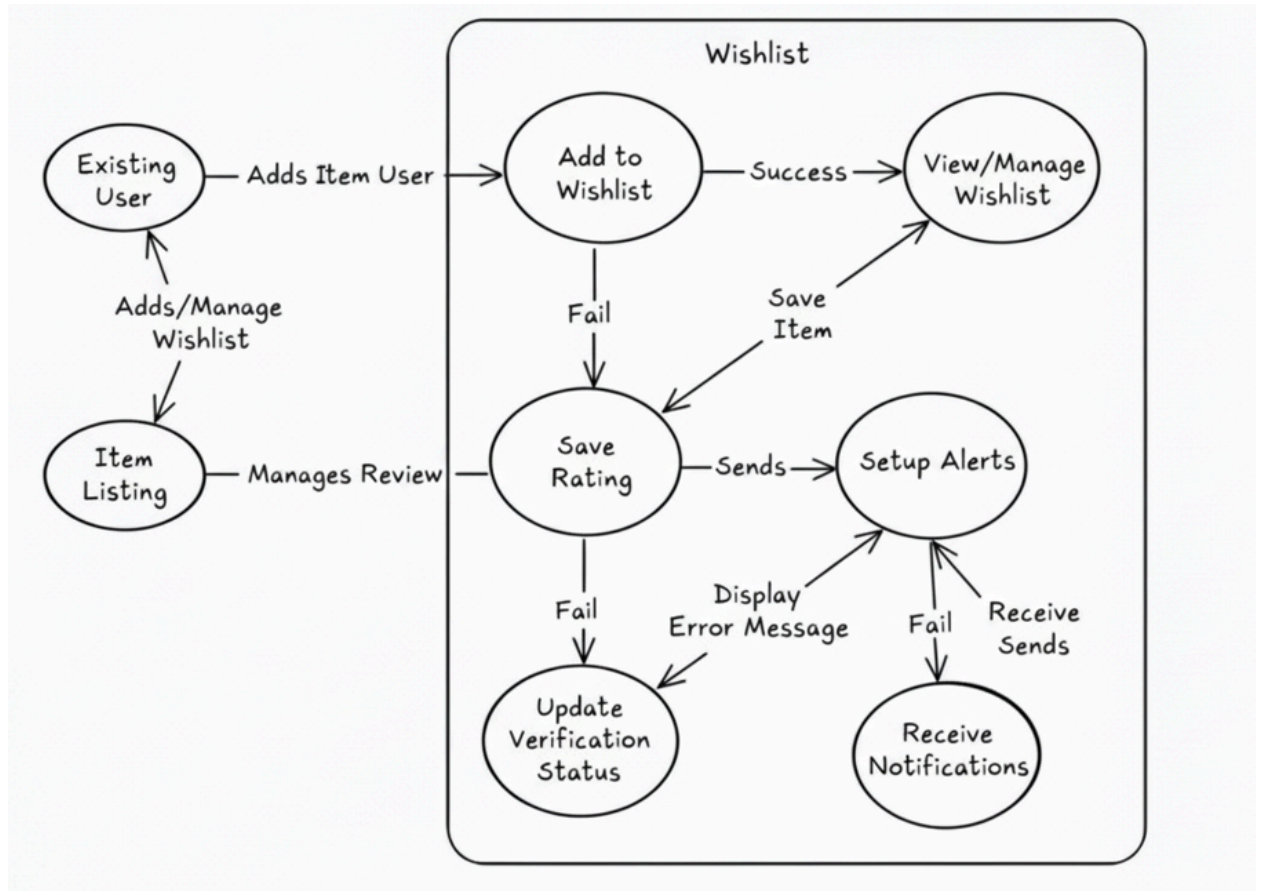
UC-05 User Verification



UC-06 User Rating



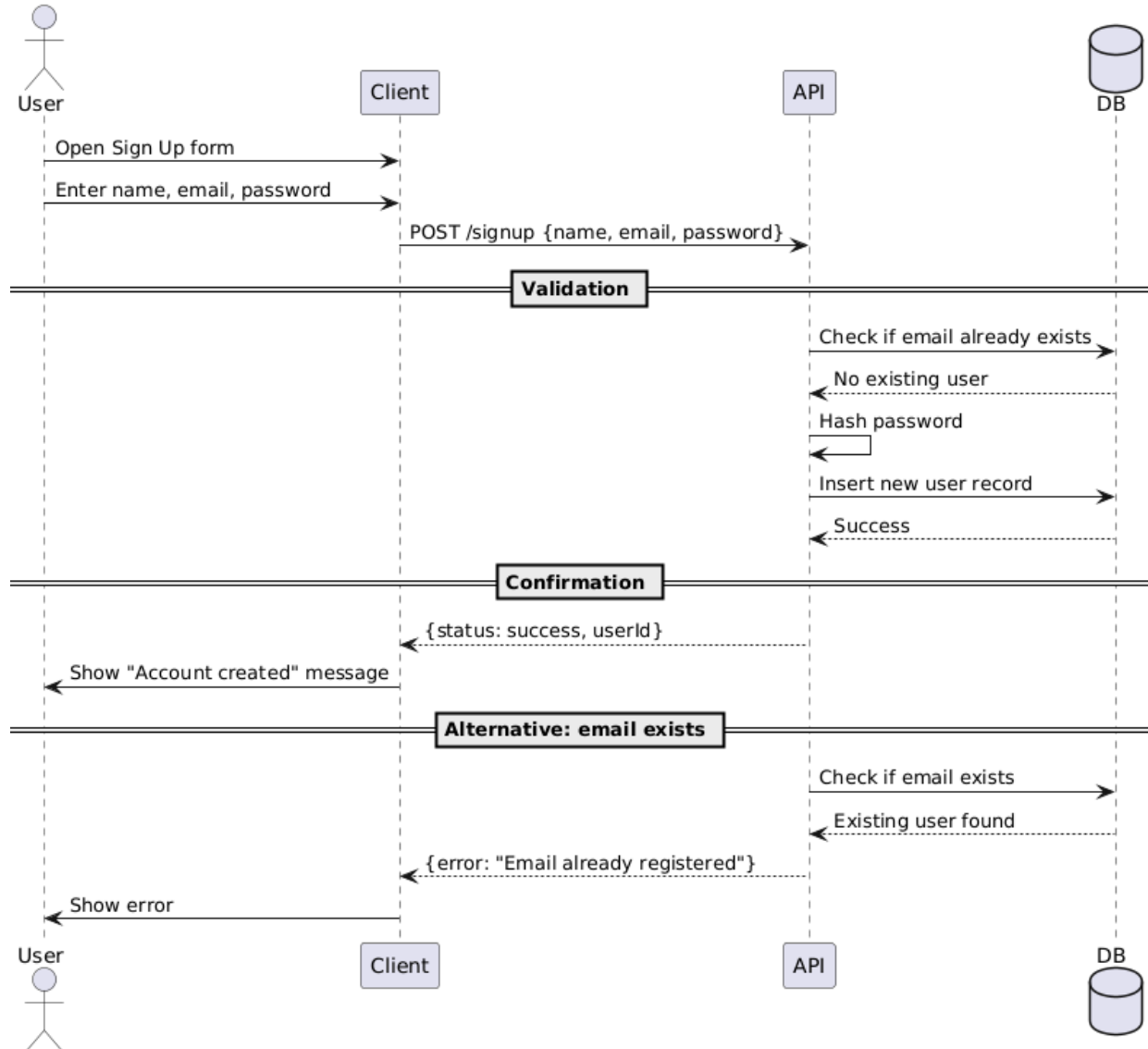
UC-07 Wishlist



Sequence Diagrams

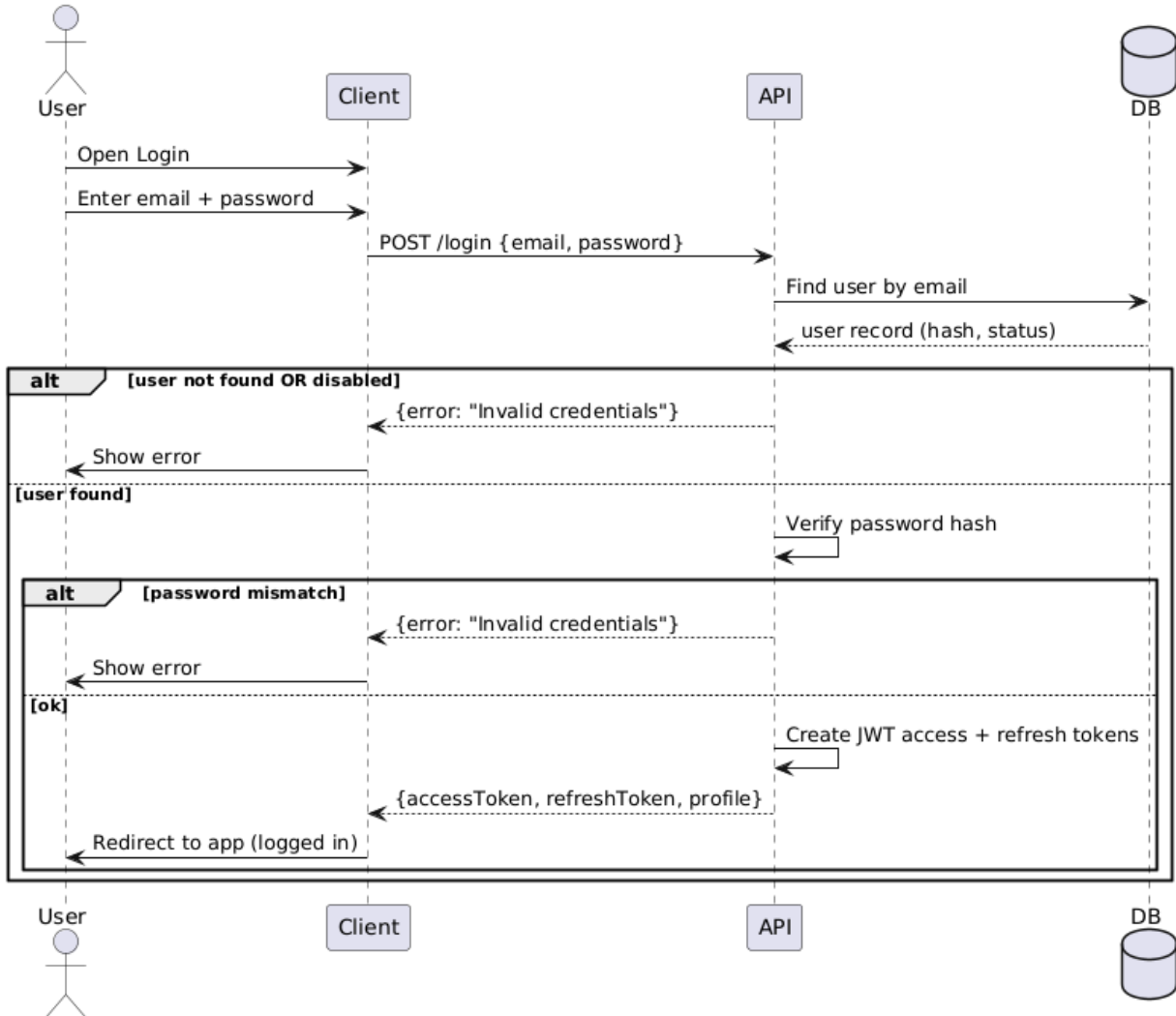
Create Account (SignUp)

Create Account (Sign Up)



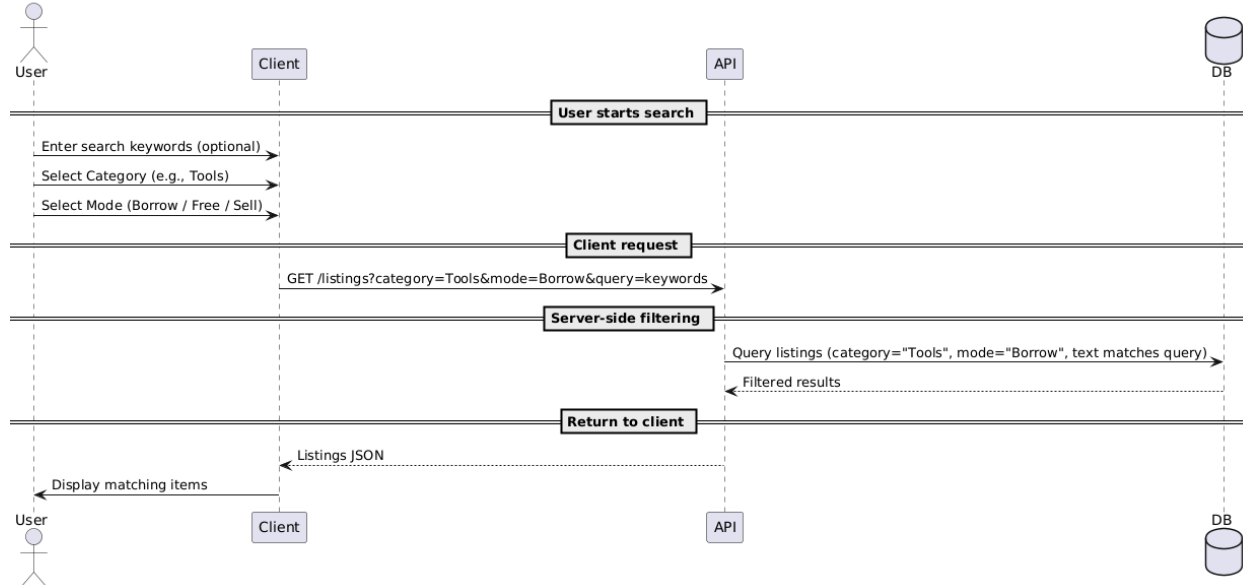
User Log In

Log In (email + password)



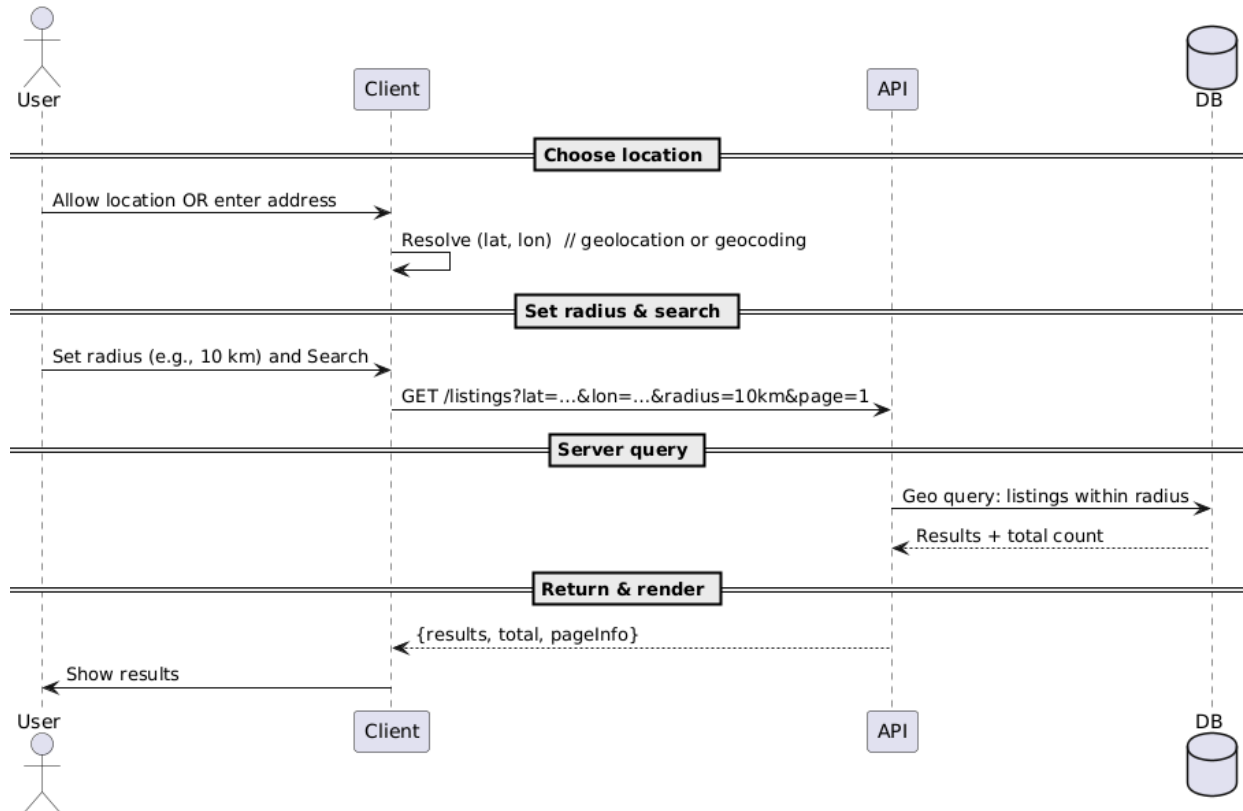
Search (Using Filters)

Search with Filters (Category + Borrow/Free/Sell)

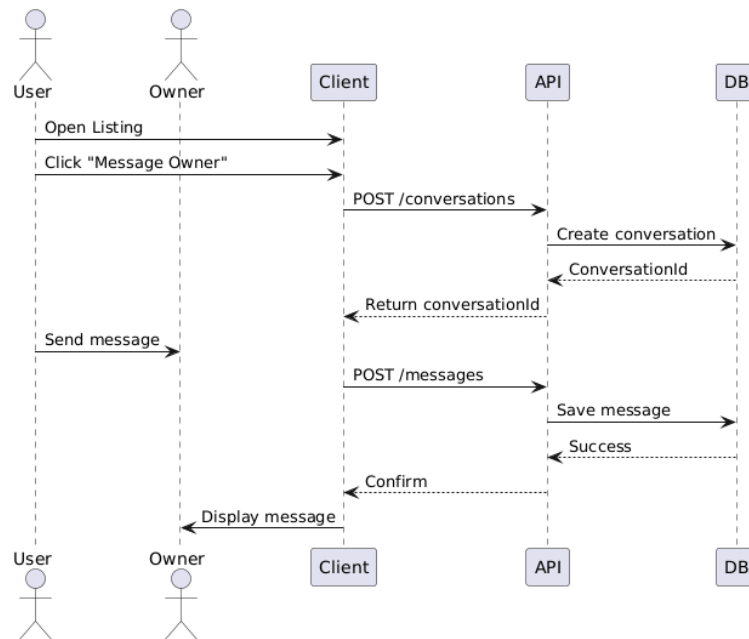


Search (Using Distance)

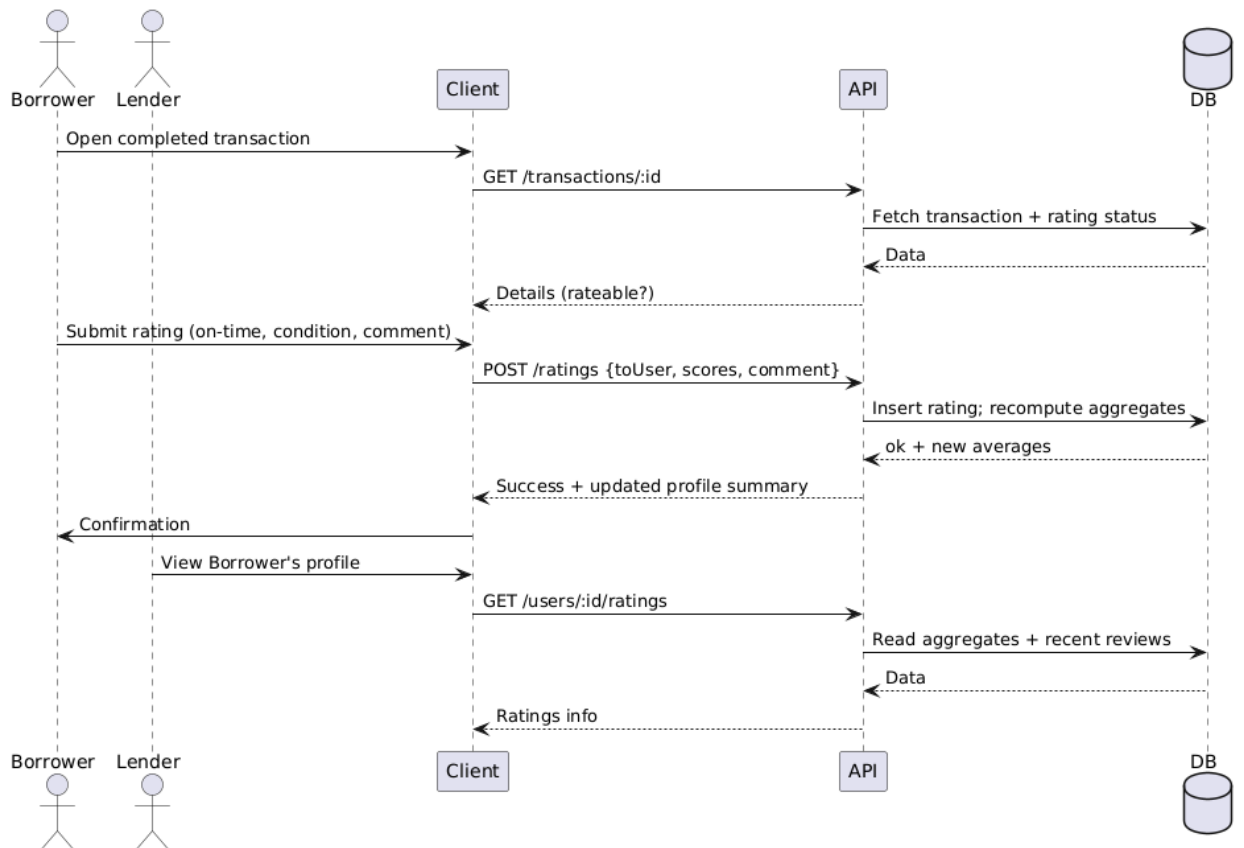
Distance-only Search (radius around a point)



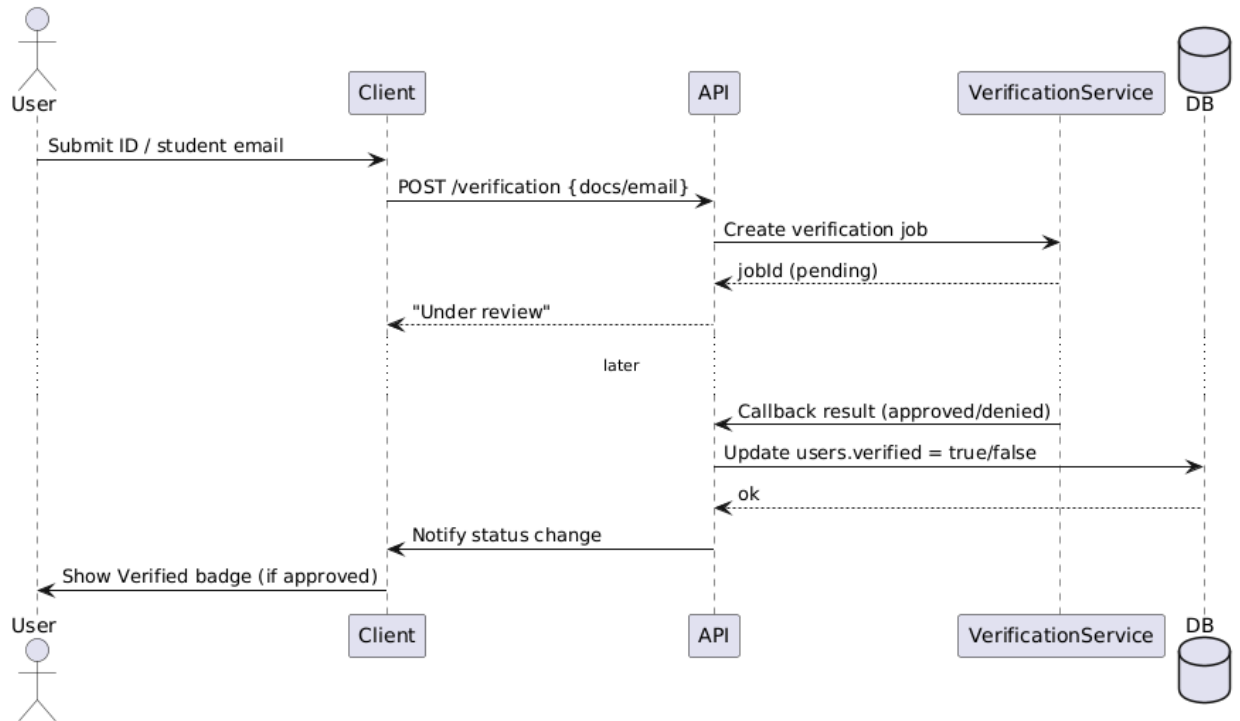
In-App Messaging



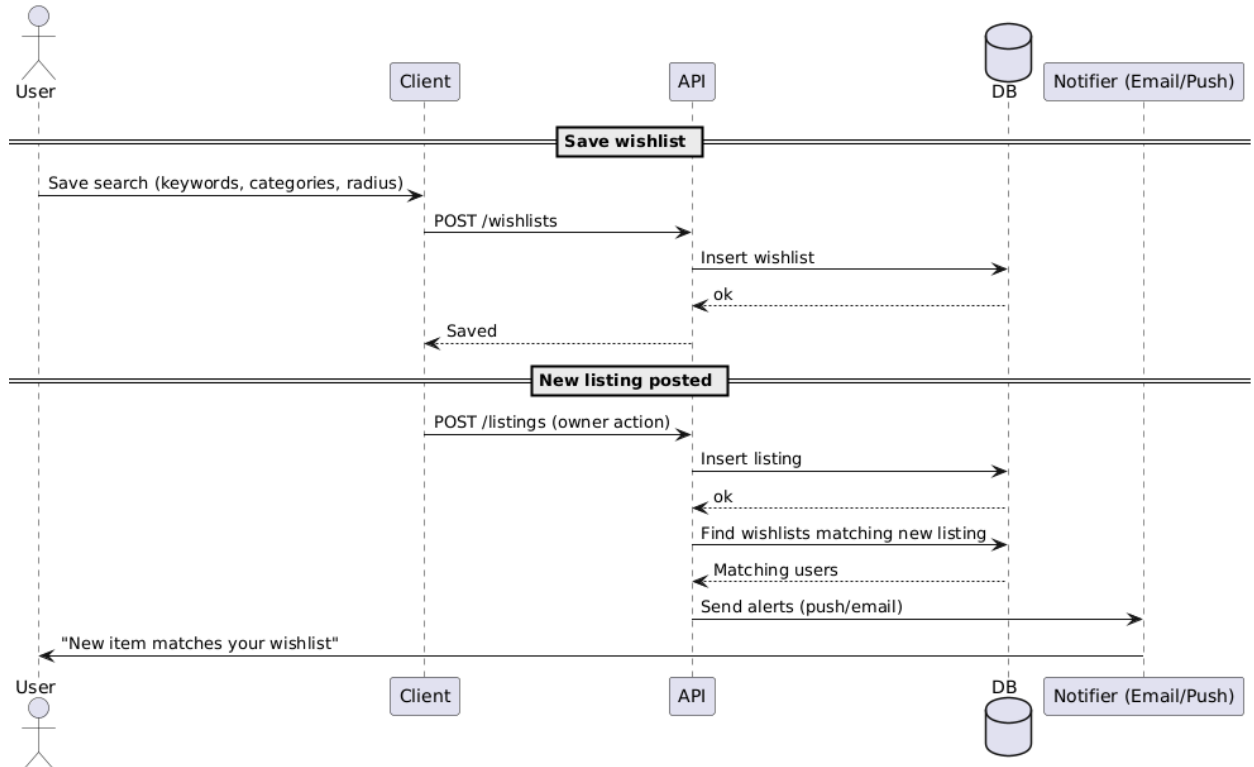
Profiles and Rating



Student Verification



Wishlist Alerts



User Log Out

Log Out (invalidate session/tokens)

