**API Design for Forum App**

**Core Entities:**

1. **User:**
   * **Attributes:**
     + **ID (unique identifier)**
     + **Username**
     + **Email**
     + **Password (encrypted)**
     + **Profile Information (e.g., name, bio, avatar, etc.)**
2. **Thread:**
   * **Attributes:**
     + **ID (unique identifier)**
     + **Title**
     + **Content**
     + **Author (User ID)**
     + **Creation Date**
     + **Last Updated Date**
3. **Reply:**
   * **Attributes:**
     + **ID (unique identifier)**
     + **Thread ID (parent thread)**
     + **Content**
     + **Author (User ID)**
     + **Creation Date**
     + **Last Updated Date**

**API Endpoints:**

1. **User Management:**
   * **Register User**
     + **Method: POST**
     + **Endpoint: /api/users/register**
     + **Request Body: { "username": "example\_user", "email": "user@example.com", "password": "password123", "profile": { "name": "John Doe", "bio": "Lorem ipsum", "avatar": "url/to/avatar.jpg" } }**
     + **Response:**
       - **Success: { "success": true, "message": "User registered successfully" }**
       - **Error: { "success": false, "message": "Registration failed. Please check your input data" }**
   * **Log In User**
     + **Method: POST**
     + **Endpoint: /api/users/login**
     + **Request Body: { "email": "user@example.com", "password": "password123" }**
     + **Response:**
       - **Success: { "success": true, "message": "Login successful", "token": "JWT\_token" }**
       - **Error: { "success": false, "message": "Login failed. Invalid email or password" }**
   * **Update User Profile**
     + **Method: PUT**
     + **Endpoint: /api/users/profile**
     + **Request Body: { "name": "Updated Name", "bio": "Updated bio", "avatar": "url/to/new\_avatar.jpg" }**
     + **Headers: { "Authorization": "Bearer JWT\_token" }**
     + **Response:**
       - **Success: { "success": true, "message": "Profile updated successfully" }**
       - **Error: { "success": false, "message": "Profile update failed. Please try again later" }**
2. **Thread Management:**
   * **Create New Thread**
     + **Method: POST**
     + **Endpoint: /api/threads**
     + **Request Body: { "title": "Thread Title", "content": "Thread content" }**
     + **Headers: { "Authorization": "Bearer JWT\_token" }**
     + **Response:**
       - **Success: { "success": true, "message": "Thread created successfully", "thread\_id": "thread\_id" }**
       - **Error: { "success": false, "message": "Thread creation failed. Please check your input data" }**
   * **Save/Bookmark Thread**
     + **Method: POST**
     + **Endpoint: /api/threads/{thread\_id}/save**
     + **Headers: { "Authorization": "Bearer JWT\_token" }**
     + **Response:**
       - **Success: { "success": true, "message": "Thread saved/bookmarked successfully" }**
       - **Error: { "success": false, "message": "Thread save/bookmark failed. Thread not found or already saved" }**
   * **Unsave/Unbookmark Thread**
     + **Method: DELETE**
     + **Endpoint: /api/threads/{thread\_id}/save**
     + **Headers: { "Authorization": "Bearer JWT\_token" }**
     + **Response:**
       - **Success: { "success": true, "message": "Thread unsaved/unbookmarked successfully" }**
       - **Error: { "success": false, "message": "Thread unsave/unbookmark failed. Thread not found or not saved" }**
3. **Reply Management:**
   * **Create New Reply**
     + **Method: POST**
     + **Endpoint: /api/threads/{thread\_id}/replies**
     + **Request Body: { "content": "Reply content" }**
     + **Headers: { "Authorization": "Bearer JWT\_token" }**
     + **Response:**
       - **Success: { "success": true, "message": "Reply added successfully", "reply\_id": "reply\_id" }**
       - **Error: { "success": false, "message": "Reply addition failed. Please try again later" }**
   * **Update Reply**
     + **Method: PUT**
     + **Endpoint: /api/replies/{reply\_id}**
     + **Request Body: { "content": "Updated reply content" }**
     + **Headers: { "Authorization": "Bearer JWT\_token" }**
     + **Response:**
       - **Success: { "success": true, "message": "Reply updated successfully" }**
       - **Error: { "success": false, "message": "Reply update failed. Please try again later" }**
   * **Delete Reply**
     + **Method: DELETE**
     + **Endpoint: /api/replies/{reply\_id}**
     + **Headers: { "Authorization": "Bearer JWT\_token" }**
     + **Response:**
       - **Success: { "success": true, "message": "Reply deleted successfully" }**
       - **Error: { "success": false, "message": "Reply deletion failed. Please try again later" }**