



BLOGGING PLATFORM

CONNECTCO



SOFTWARE ENGINEERING (IT - 314)

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Object Design

1. User Management

Classes related to user authentication, registration, and profile management:

- **User**
 - Attributes:
 - `userId`: Unique identifier.
 - `name`: String.
 - `email`: String (college-specific validation).
 - `passwordHash`: String (encrypted).
 - `profilePicture`: URL.
 - `bio`: String.
 - Methods:
 - `register(email, password, name)`: Creates a new account.
 - `login(email, password)`: Authenticates user.
 - `editProfile(name, bio, profilePicture)`: Updates user details.
 - `resetPassword(newPassword)`: Changes the user's password.
 - **AuthenticationService**
 - Methods:
 - `validateEmail(email)`: Ensures the email domain is college-specific.
 - `encryptPassword(password)`: Encrypts the password.
 - `sendVerificationEmail(email)`: Sends email verification.
 - `generateResetLink(email)`: Generates a password reset link.
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2. Blog Post Management

Classes for blog creation, editing, and management:

- **BlogPost**
 - Attributes:
 - postId: Unique identifier.
 - author: Reference to User.
 - title: String.
 - content: String (rich text).
 - mediaUrls: List of URLs for videos or audio.
 - tags: List of Strings.
 - createdAt: Timestamp.
 - updatedAt: Timestamp.
 - Methods:
 - createPost(title, content, mediaUrls, tags): Creates a new blog post.
 - editPost(postId, title, content, mediaUrls, tags): Edits a blog post.
 - deletePost(postId): Deletes a blog post.
 - **MediaValidator**
 - Methods:
 - validateMedia(mediaFile): Ensures media size and format meet criteria.
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3. Search and Interaction

Classes for searching content and enabling social features:

- **SearchService**
 - Methods:
 - searchPosts(query): Returns a list of BlogPost based on query.
 - searchUsers(query): Returns a list of User profiles.
- **SocialInteraction**
 - Attributes:
 - interactionId: Unique identifier.
 - post: Reference to BlogPost.

- user: Reference to User.
 - type: Enum (LIKE, COMMENT, SHARE).
 - content: String (for comments).
 - createdAt: Timestamp.
 - Methods:
 - likePost(userId, postId): Adds a like to the post.
 - sharePost(userId, postId): Shares the post.
 - commentOnPost(userId, postId, content): Adds a comment.
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4. Collaboration and Forums

Classes for collaborative blogging and forums:

- **Collaboration**
 - Attributes:
 - collaborationId: Unique identifier.
 - blogPost: Reference to BlogPost.
 - contributors: List of User references.
 - Methods:
 - addContributor(userId): Adds a contributor to the blog post.
 - removeContributor(userId): Removes a contributor.
- **Forum**
 - Attributes:
 - forumId: Unique identifier.
 - clubName: String.
 - admin: Reference to User.
 - threads: List of Thread.
 - Methods:
 - createThread(title, content): Adds a new thread.
 - deleteThread(threadId): Removes a thread.

- **Thread**

- Attributes:
 - threadId: Unique identifier.
 - title: String.
 - content: String.
 - posts: List of ForumPost.
 - Methods:
 - addPost(userId, content): Adds a post to the thread.
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5. Analytics and Feedback

Classes for tracking user engagement and managing feedback:

- **Analytics**

- Attributes:
 - userId: Reference to User.
 - likesCount: Integer.
 - sharesCount: Integer.
 - commentsCount: Integer.
- Methods:
 - getUserAnalytics(userId): Returns engagement statistics for a user.

- **Feedback**

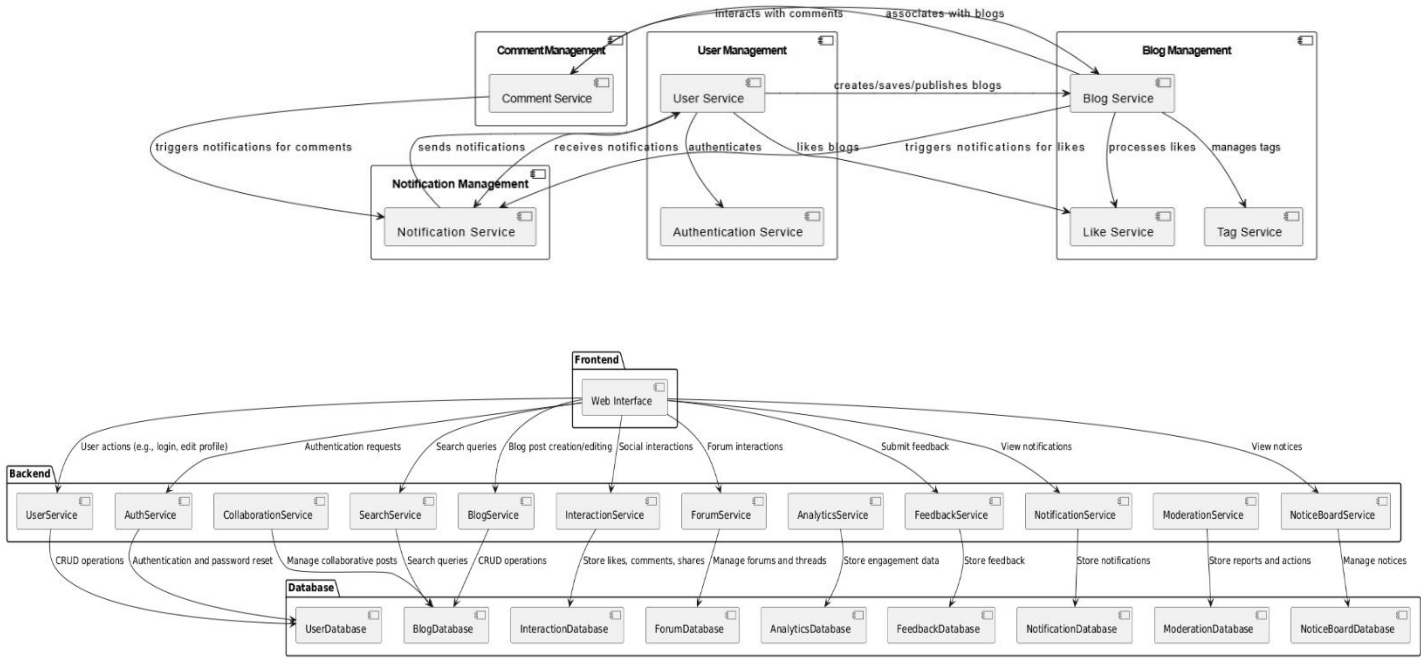
- Attributes:
 - feedbackId: Unique identifier.
 - user: Reference to User.
 - content: String.
 - submittedAt: Timestamp.
 - Methods:
 - submitFeedback(userId, content): Submits feedback to the administration.
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6. Notifications and Moderation

Classes for system-wide notifications and moderation:

- **Notification**
 - Attributes:
 - notificationId: Unique identifier.
 - recipient: Reference to User.
 - message: String.
 - readStatus: Boolean.
 - createdAt: Timestamp.
 - Methods:
 - sendNotification(userId, message): Sends a notification.
 - markAsRead(notificationId): Marks notification as read.
- **Moderation**
 - Attributes:
 - reportId: Unique identifier.
 - reportedContent: Reference to BlogPost or SocialInteraction.
 - reportedBy: Reference to User.
 - status: Enum (PENDING, REVIEWED, ACTION_TAKEN).
 - Methods:
 - reportContent(userId, contentId): Allows a user to report content.
 - reviewReport(reportId): Marks a report as reviewed.
- **NoticeBoard**
 - Attributes:
 - noticeId: Unique identifier.
 - title: String.
 - content: String.
 - postedBy: Reference to admin User.
 - Methods:
 - postNotice(title, content): Adds a new notice.
 - deleteNotice(noticeId): Removes a notice.

Component Diagrams :



Object Diagram

