+-------------------+ +--------------------+ +-------------------+

| User | | EmailVerification | | PasswordRecovery |

+-------------------+ +--------------------+ +-------------------+

| - userID | | - verificationID | | - recoveryID |

| - email | | - userID | | - userID |

| - username | | - verificationToken| | - recoveryToken |

| - fullName | | - isUsed | | - isUsed |

| - passwordHash | | - expiryDate | | - expiryDate |

| - isVerified | +--------------------+ +-------------------+

| - profilePicture | | + sendVerificationEmail() | + sendRecoveryEmail() |

| - firstName | | + verifyToken() | + verifyRecoveryToken()|

| - lastName | +--------------------+ | + resetPassword() |

+-------------------+ +-------------------+

| + signUp() | +-------------------+

| + verifyEmail() |

| + requestPasswordRecovery() |

| + changePassword()|

| + updateProfile() |

+-------------------+

+-------------------+ +-------------------+ +-------------------+

| Role | | UserRole | | Permissions |

+-------------------+ +-------------------+ +-------------------+

| - roleID | | - userID | | - permissionID |

| - roleName | | - roleID | | - permissionName |

| - permissions | +-------------------+ +-------------------+

+-------------------+ | + assignRoleToUser() | + grantPermission()|

| + assignRole() | | + removeRoleFromUser() | + revokePermission()|

| + removeRole() | +-------------------+ +-------------------+

+-------------------+

+-------------------+

| Post |

+-------------------+

| - postID |

| - authorID |

| - content |

| - mediaType |

| - mediaURL |

| - timestamp |

+-------------------+

| + createPost() |

| + editPost() |

| + deletePost() |

| + viewPost() |

|  |
| --- |
|  |

User Authentication and Management Class Diagram for Loggy

This document outlines the class diagram for the user authentication and management system of the Loggy web application. The class diagram includes classes for managing user registration, email verification, password recovery, role management, and user profile management.

![Class Diagram](path/to/class\_diagram.png)

\*\*Class Explanations\*\*:

1. \*\*User\*\*:

- Manages user information and actions such as sign-up, email verification, password recovery, password change, and profile update.

2. \*\*EmailVerification\*\*:

- Handles the generation, sending, and verification of email verification tokens.

3. \*\*PasswordRecovery\*\*:

- Manages the password recovery process, including sending recovery emails and verifying recovery tokens.

4. \*\*Role\*\*:

- Defines various roles and their associated permissions within the application.

5. \*\*UserRole\*\*:

- Manages the assignment of roles to users, allowing for multiple roles per user.

6. \*\*Permissions\*\*:

- Encapsulates permissions that can be assigned to roles to control access to different functionalities.

7. \*\*Post\*\*:

- Represents user posts, including methods for creating, editing, deleting, and viewing posts.