User Authentication Module:

*The primary sub-functionalities include:*

*Registration System:*  
Objective: Allow users to create accounts securely within the GCU domain

Technical implementation:

* Utilize a robust encryption algorithm for storing and protecting user credentials
* Implement a user-friendly registration form with necessary fields such as name, email, and password
* Validate user inputs to ensure accuracy and completeness
* Generate unique user identifiers for seamless system interaction

*Login System:*

Objective: Enable registered users to securely access their accounts

Technical implementation:

* Develop a secure login page with fields for username/email and password
* Use session or web tokens for secure and efficient user authentication
* (Implement a multi-factor authentication option for an additional layer of security)
* (Implement account lockout mechanisms after multiple unsuccessful login attempts to prevent unauthorized access)

*GCU Domain Exclusivity:*

Objective: Ensure that only GCU people can access the platform

Technical implementation:

* Utilize domain-specific email verification to confirm user identity
* Utilize GCU's existing authentication system or integrate with GCU's directory services for user verification
* Implement Single Sign-On (SSO), allowing users to use their GCU credentials for seamless access

*The secondary sub-functionalities include:*

*Password Management:*

Objective: Provide a secure mechanism for users to manage and recover their passwords

Technical implementation:

* Enable users to reset passwords through a secure password recovery process
* Implement password complexity requirements to enhance security
* Store passwords securely using industry-standard hashing algorithms
* Utilize password strength meters to guide users in creating robust passwords

*Account Deactivation:*

Objective: Allow users to delete (deactivate) their accounts securely

Technical implementation:

* Provide a user-friendly account deactivation option within the user profile settings
* Implement a secure process for permanently removing user data upon account deactivation

*Biometric Authentication:*

Objective: Offer a convenient and secure method for user identification

Technical implementation:

* Integrate biometric authentication methods such as facial recognition
* Allow users to enable or disable biometric authentication based on their preference
* Implement a secure storage mechanism for biometric data, following industry standards

Profile Management Module:

*The primary sub-functionalities include:*

*Profile Creation:*

Objective: Enable users to create detailed and personalized profiles

Technical implementation:

* Design an intuitive profile creation wizard for users to input personal and academic information
* Implement validation checks to ensure the accuracy and completeness of profile information
* (Allow users to upload a profile picture and customize other visual elements)
* (Incorporate tooltips and guidance to assist users in creating comprehensive profiles)

*Personal Information:*

Objective: Provide a space for users to share personal details

Technical implementation:

* Implement customizable fields for users to input personal information such as bio, interests, and contact details
* Allow users to control the visibility of personal information based on privacy preferences
* Provide options for users to link to external personal websites or social media profiles

*Academic Information:*

Objective: Allow users to showcase their academic background

Technical implementation:

* Include fields for users to input academic details such as major, graduation year, and academic achievements
* Implement integrations with GCU's academic databases for seamless retrieval of academic information
* Enable users to manage and update academic information as their status evolves
* Allow users to link academic projects or publications to their profiles

*The secondary sub-functionalities include:*

*Profile Editing:*

Objective: Allow users to easily update and modify their profiles

Technical implementation:

* Implement a user-friendly interface for editing profile information
* (Integrate with notification systems to inform users of successful profile updates)
* (Implement real-time updates to reflect changes in profile information across the platform)

*Interactivity Features:*

Objective: Enhance user engagement through interactive profile features

Technical implementation:

* Allow users to like, comment, or share content on other users' profiles
* Integrate a section where users can highlight collaborative projects, group memberships, or shared accomplishments
* Implement a notification system for profile interactions, including endorsements, comments, and collaborative project engagements

*Profile Search and Discovery:*

Objective: Facilitate the user profile discovery within the application

Technical implementation:

* Implement a search functionality for users to discover profiles based on criteria such as interests or academic background
* Optimize search algorithms for efficient and accurate profile discovery
* Integrate with the group interaction system to identify users with similar interests