

# **Beaconnet**

## Unified Model Language

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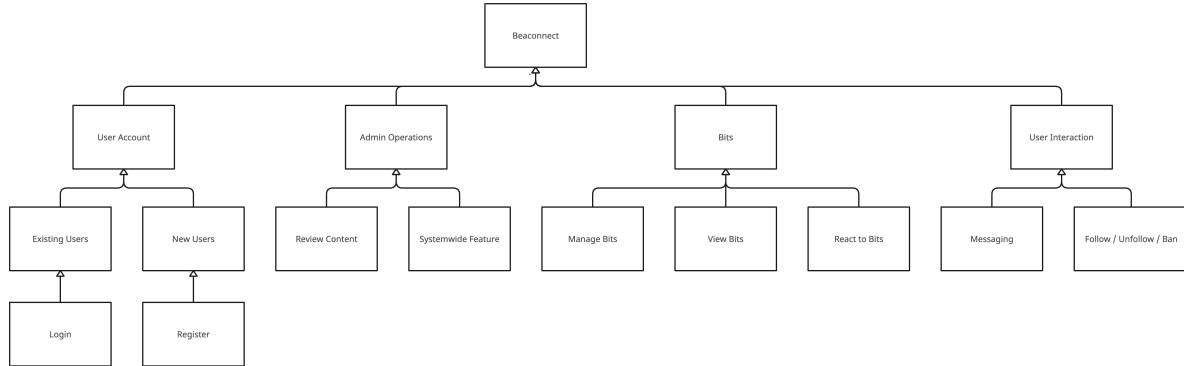
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## 1 Detailed Description of components

### 1.1 Structural Diagram



Beaconet is a system with a four-layer structure. The second layer consists of four main parts: User Account, Admin Operations, Bits, and User Interaction.

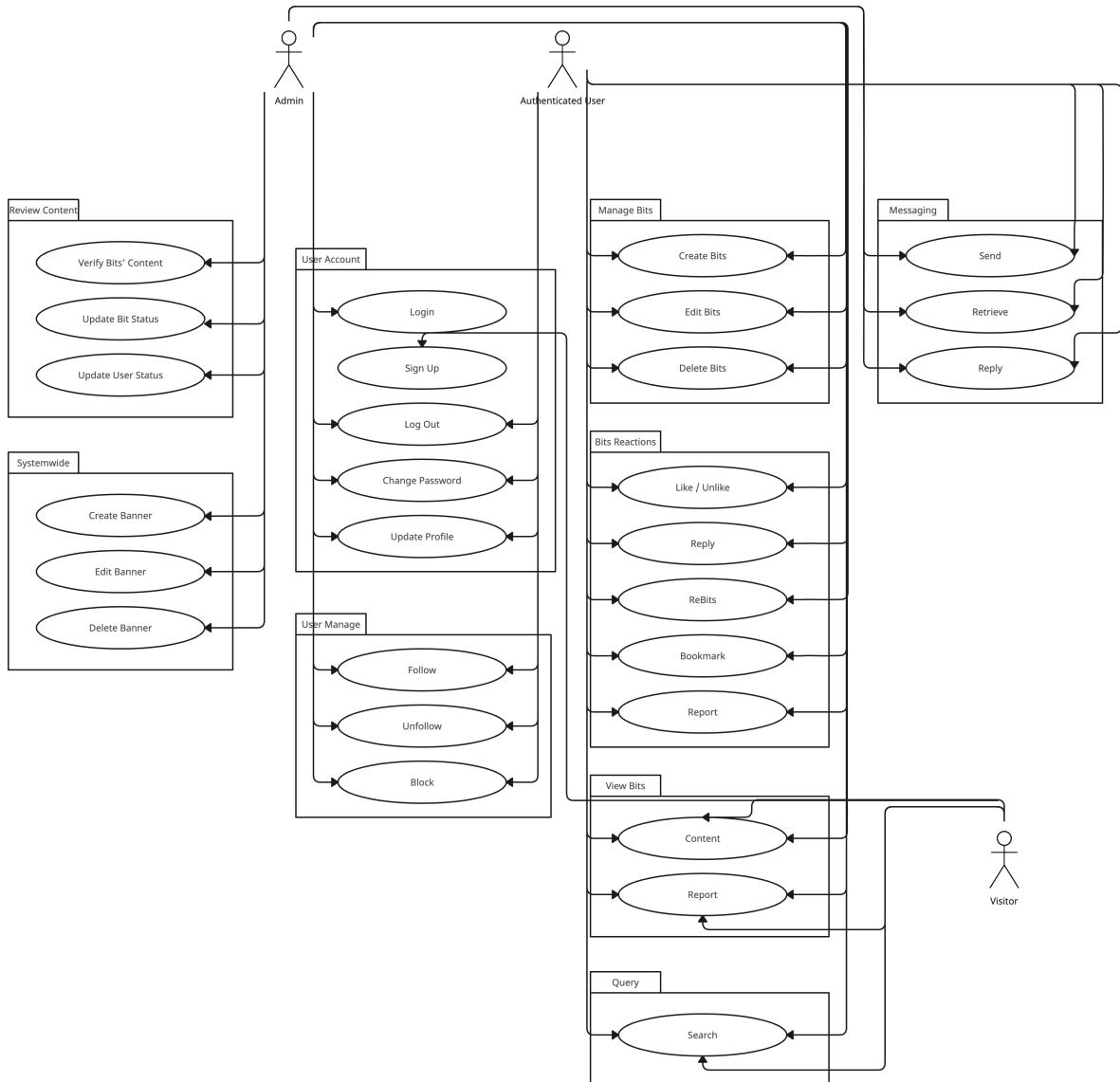
The User Account section is split into two components, which manage user authentication. Existing Users verify credentials to ensure that only authorized users can access their accounts. New Users allows users to register, allowing newcomers to create an account.

Admin Operations provides administrative functionality for system management, with two primary roles. Administrators can review and moderate content on Bits and profiles to ensure adherence to the Beaconet policies. They can also make system-wide announcements to communicate important information to users through various means, such as creating banners or sending notifications.

The Bits section deals with the bits. Users can create, edit, or remove bits, and control the visibility. Bits are retrieved from the database and displayed to users in the view Bits part, while the react to Bits part stores information such as liking, ReBits, and commenting on them.

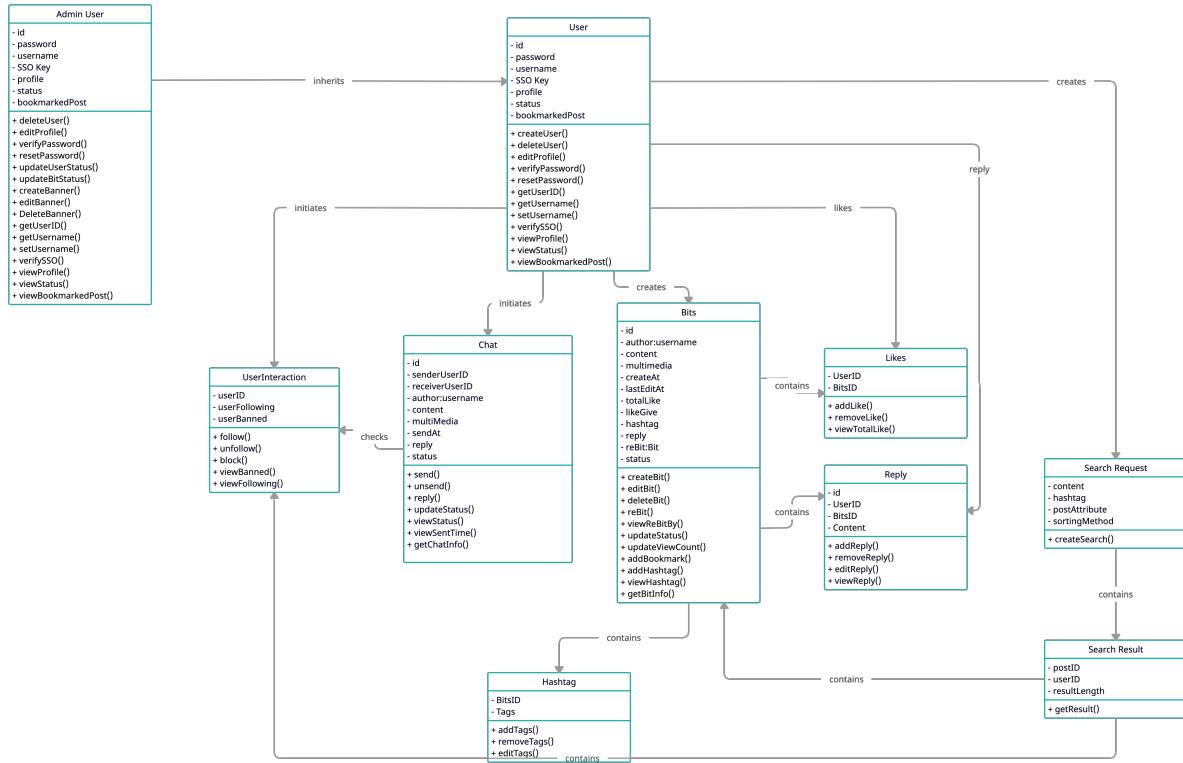
Lastly, User Interaction focuses on messaging and social connections between users. The messaging feature enables users to send private messages to one another, fostering direct contact with others. Users are also given permission to manage their accounts by functions like follow, unfollow and block users.

## 1.2 User-Case Diagram



In the use case diagram of Beaconet, describe the function available to a different user. For the Visitor (all/any user), they can view the Bits posted, search for Bits, and signup for a new account. But lack many major functions of Beaconet. While for the Authenticated User(login user), most of the function is available for them, including account/bit/user management, interacting with other Users and Bits, as well as searching. On top of that, Admin user can utilize some system function like review content and seasonal/event-based website limited decoration. All authenticated user functions are also usable for Admin.

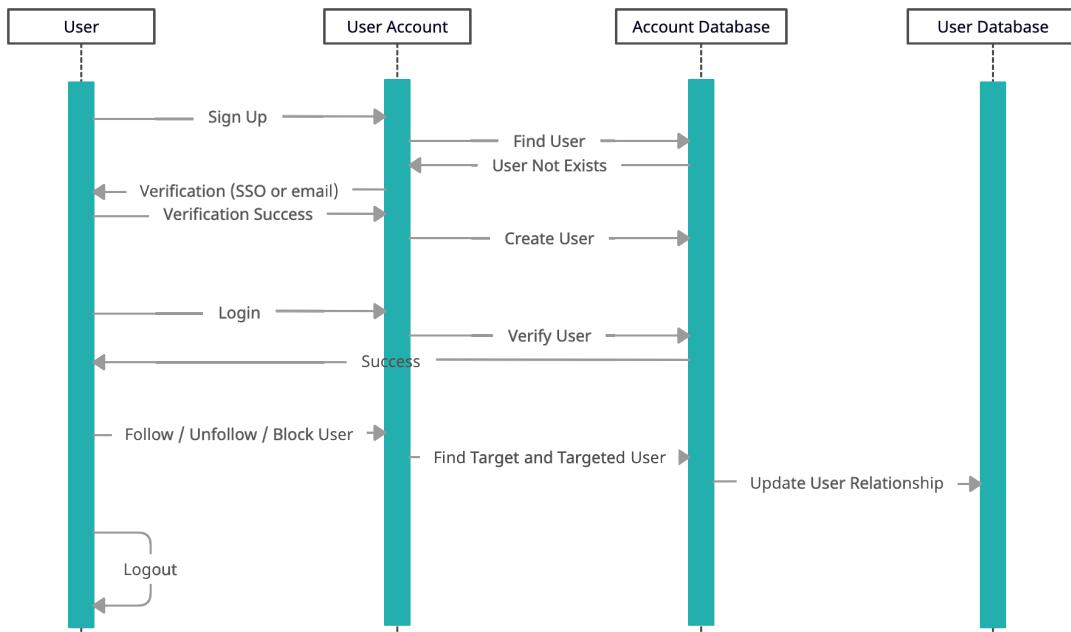
### 1.3 Class Diagram



### 1.4 Sequence Diagram

#### 1.4.1 Account/User Management

Login, Logout, Register, Follow, Unfollow, Block



**Brief Description:** A user can first sign up for a new account and then can do the following step follow,

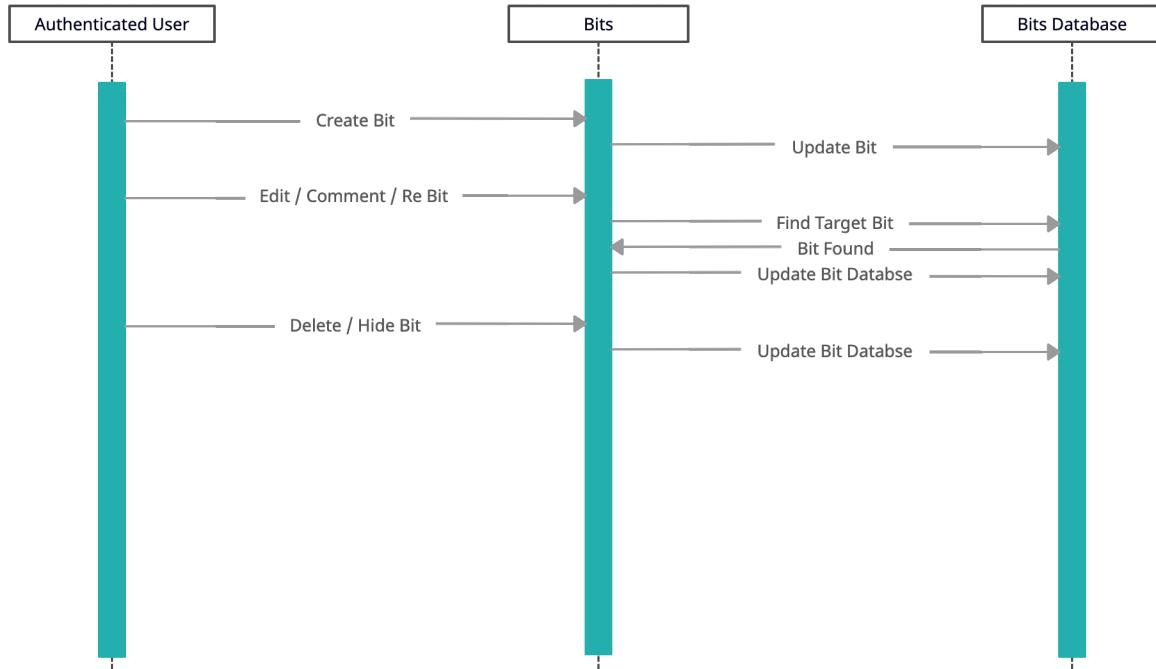
unfollow and block other users.

**Step-By-Step Description:**

1. The user clicks the sign-up button for creating a new account and enters either email or SSO.
2. The entered email or SSO will be searched in Account Database to see if the email has been registered before.
3. If the address cannot be found in the database, it is a valid request for creating a new account.
4. A verification email will be sent to the registered email for safety and identity confirmation purposes.
5. After the verification email is activated, the verification process is successful.
6. A create user request is sent from the user account of the user database by sending information like user name, password and profile caption etc.
7. The registered user can then login into the system to get access to Beaconet.
8. The user account will send the login information (i.e. email and password) and see if the information is verified.
9. If the information is verified, then the login process is successful.
10. After login, the authenticated user can either follow, unfollow or block the user.
11. After the user relationship request has been sent, the user account system will send the user id of the target and targeted user to the account database.
12. After receiving the information, the targeting and targeted user relationship will be updated in the database system.
13. Logout request can be made by the user anytime.

### 1.4.2 Bit Manipulation

Bits System



**Brief Description:** A authorized user can manipulate the Bits, including create, edit, comment, like, share, and delete.

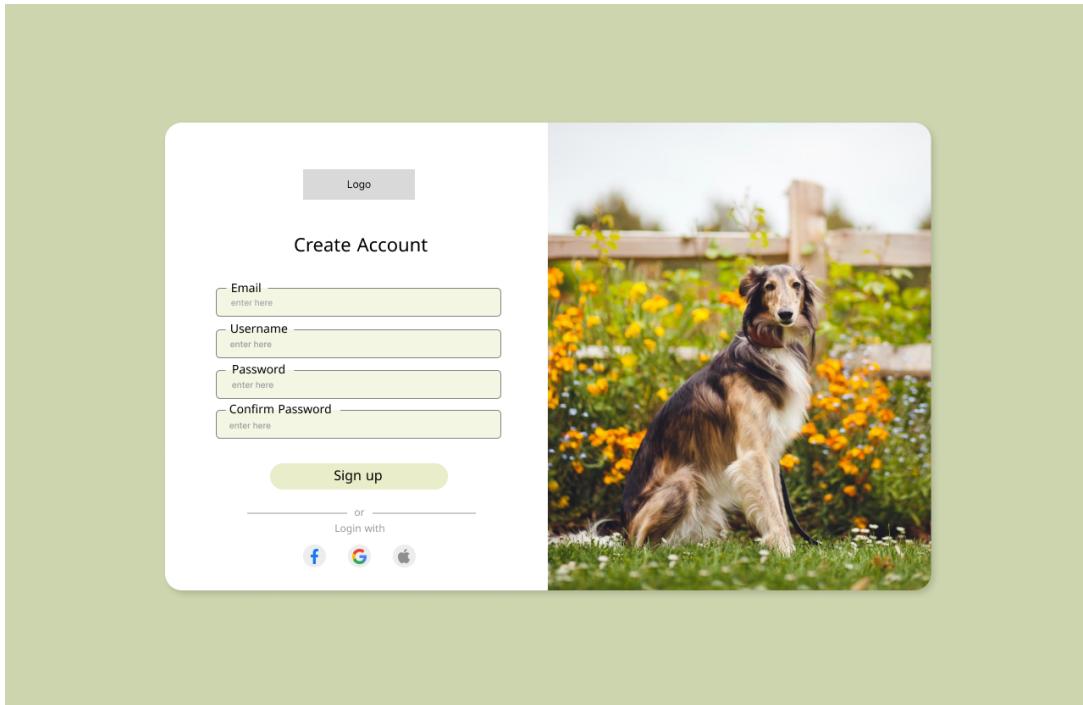
#### Step-By-Step Description:

1. An authenticated user first inputs the content of the bit and clicks the post button to create a new bit.
2. The Bits will then create/update in the Bits Database.
3. An authenticated user can also edit/comment/rebit the existing bit by clicking the corresponding button.
4. The system will query the target bit by matching the BitId in the Database.
5. The Database will return the matched bit to the system.
6. The system will then update the Bit with user input in the previous state and write back to Bit Database.
7. An authenticated user can also delete/hide the Bit posted by clicking the button.
8. The Bit system will then delete the bits entry/its relationship in the Bit Database by BitId.

## 2 User Interface Design

### 2.1 Sign Up Page

#### 2.1.1 Normal Signup



Dog photo from: <https://www.peakpx.com/en/hd-wallpaper-desktop-nknom>

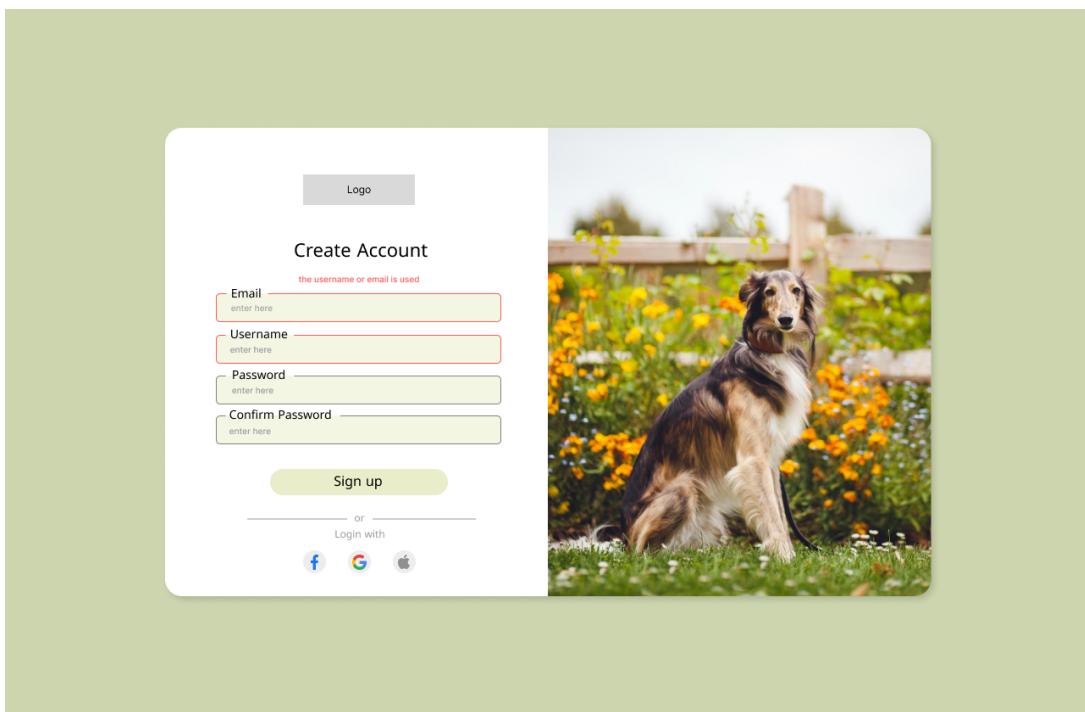
The initial design only will replace with copy-free photo when finalized.

The Beaconnet sign-up page is designed to be simple and clean. The page features a green background with a picture.

The sign-up form is in the middle-left of the page, where the logo at the top of it. The form contains fields for users to enter their email, username, password, and re-enter password verification. After going through validation check on the information given, i.e. password must consist of a number, a capital letter and a symbol. Users can click the sign-up button at the bottom of the form to sign up for their account once all the fields are filled in.

Next to the sign-up form is a line with the text “or Login with”, and there is the logo of Facebook, Google and Apple under the line. Users can click the logo buttons to log in with these three accounts without signing up for the Beaconnet account.

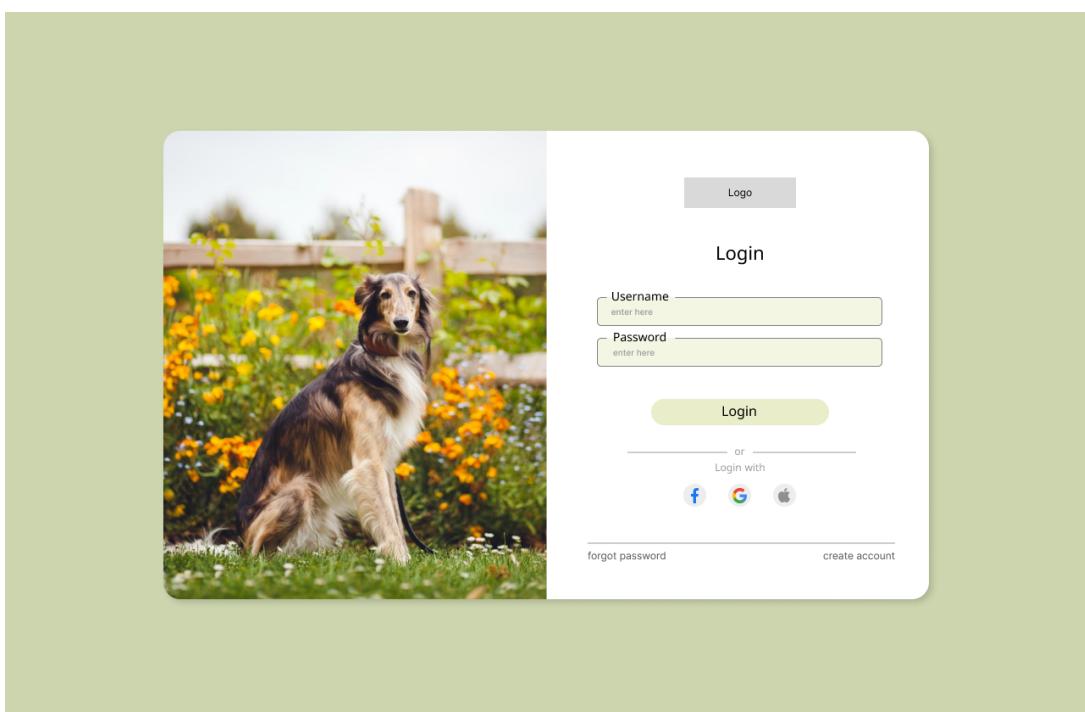
### 2.1.2 Failed Signup



Sign-up will be failed if the Email or Username is used already. The filled information would be clear from the field. And the red text "the username or email is used" would appear to notice the user. Also, the outer part of the email and username fields goes red.

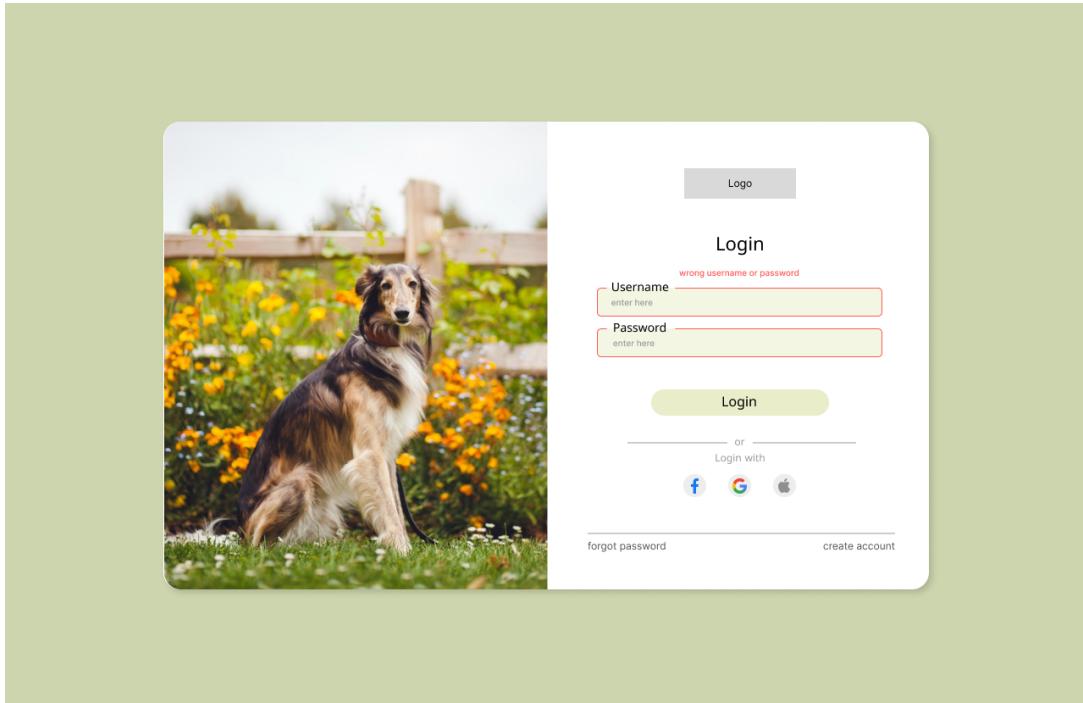
## 2.2 Login Page

### 2.2.1 Normal Login



The design of the login page is similar to the signup page. Users can click the login button after they fill up the fields. At the bottom left and right, there is the text button "forgot password" and "create account", the left can redirect the user to the page for finding the password, and the right one redirects the user to the signup page.

### 2.2.2 Failed Login



The field box turns red and the red text "wrong username or password" would appear to notice the user if the user type in the wrong username or password.

## 2.3 Index Page

The screenshot shows the Beaconet-Unified Model Language index page. On the left, there is a vertical green navigation bar with icons for Home, Discover, Profile, Messages, Languages, and Settings. The main content area displays a timeline of posts from users. Each post includes a profile picture, the user's name (@Username\_id), the time of posting (1 hrs ago), the text content, like and share counts, and a 'Comment to this Bit' button. A large image of a dog is displayed prominently. To the right of the timeline is a sidebar titled 'Trends for you' which lists various topics with their respective Bit counts.

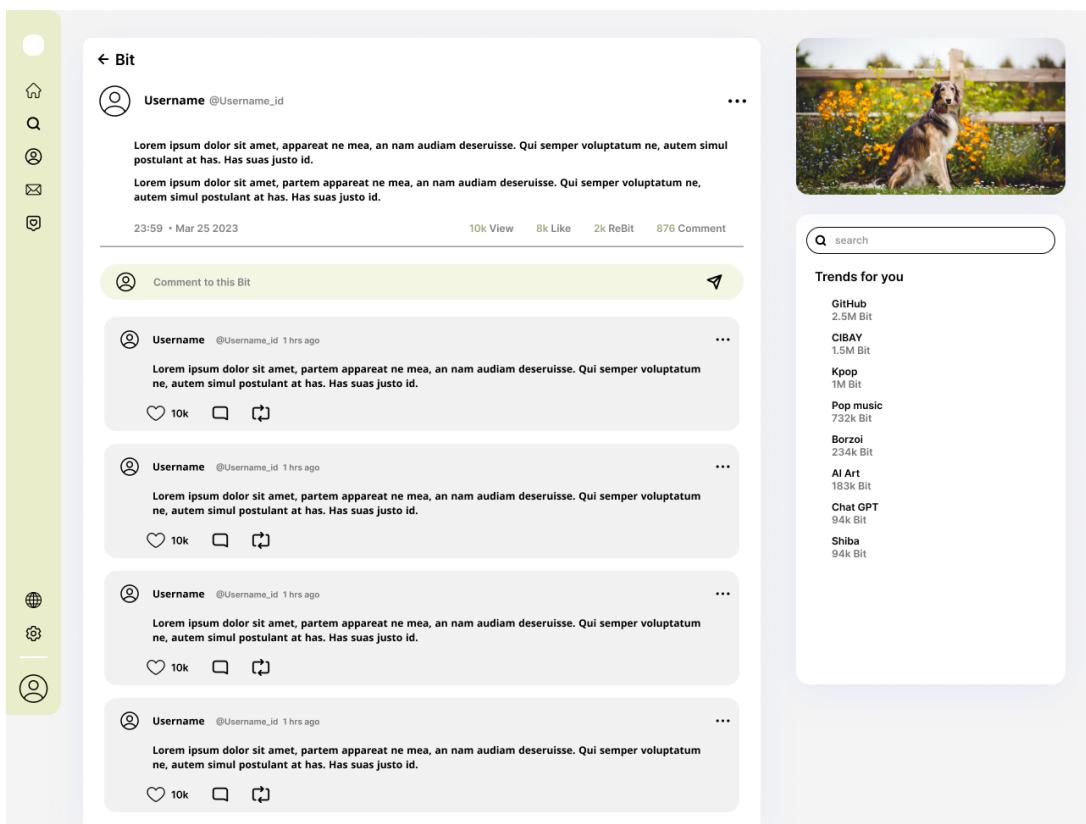
Frog photo from <https://www.youtube.com/watch?v=0VZyoa8pmIc>.

The index page features a white background and a green navigation bar. At the top of the page, users can post their own Bit. Users can type in the text they want in the box, and the three buttons below it represent photos, voice, and videos from left to right respectively. Users can add additional content to the Bit by clicking those buttons. The Bit posted by other users can be seen in the middle of the page.

The navigation bar at the top right corner contains the Home, Discover, Profile, Messages, Languages, and Settings buttons to redirect users to the relevant page.

The box at the right of the index page displays the trends for users with the number of Bits of certain keywords, also a search bar at the top of the box.

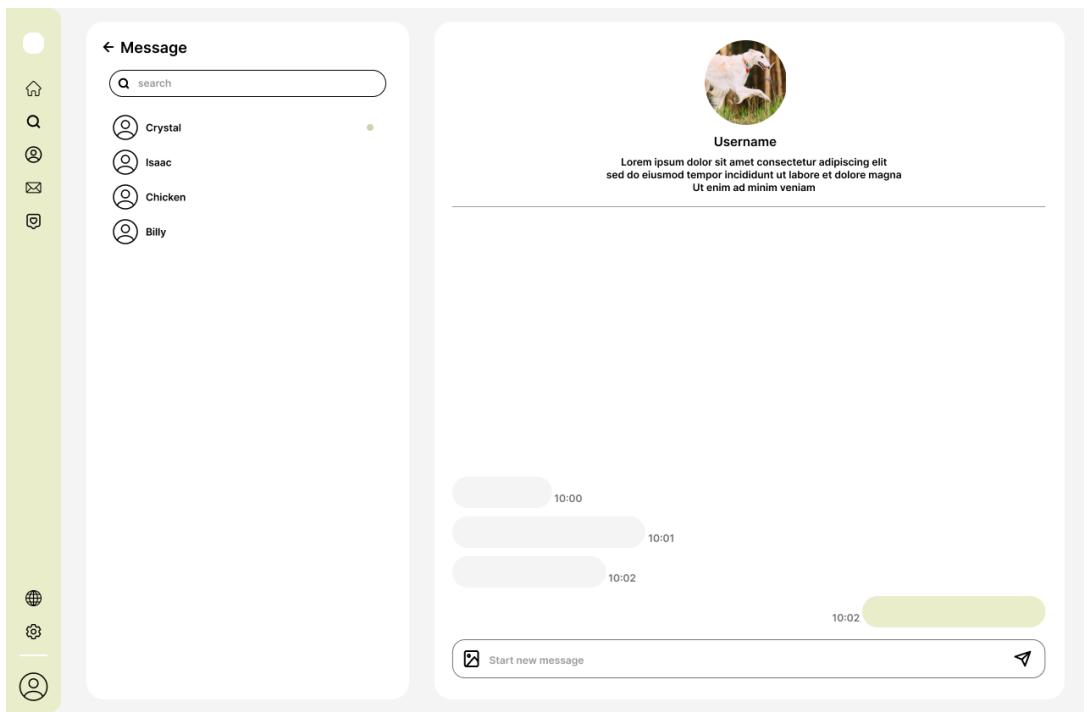
## 2.4 Bit Page



In the Bit box, there are multiple functions that users can make by clicking the button inside the Bit box:

- **Like:** Users can click the heart button to like the Bit and it turns red afterward. The number of likes is at the right of the heart.
- **Comment:** Users can type in text in the green comment box and send it out by clicking the arrow button. Or click the message box button located at the right of the heart button to comment on the other comment.
- **ReBit:** Users can ReBit others' Bit by clicking the button with the rotation logo.
- **Others:** Users can click the “others” logo button (three dots) at the top right corner of the Bit. The Submenu includes uninterested, follow a user or block user buttons.

## 2.5 Message Page

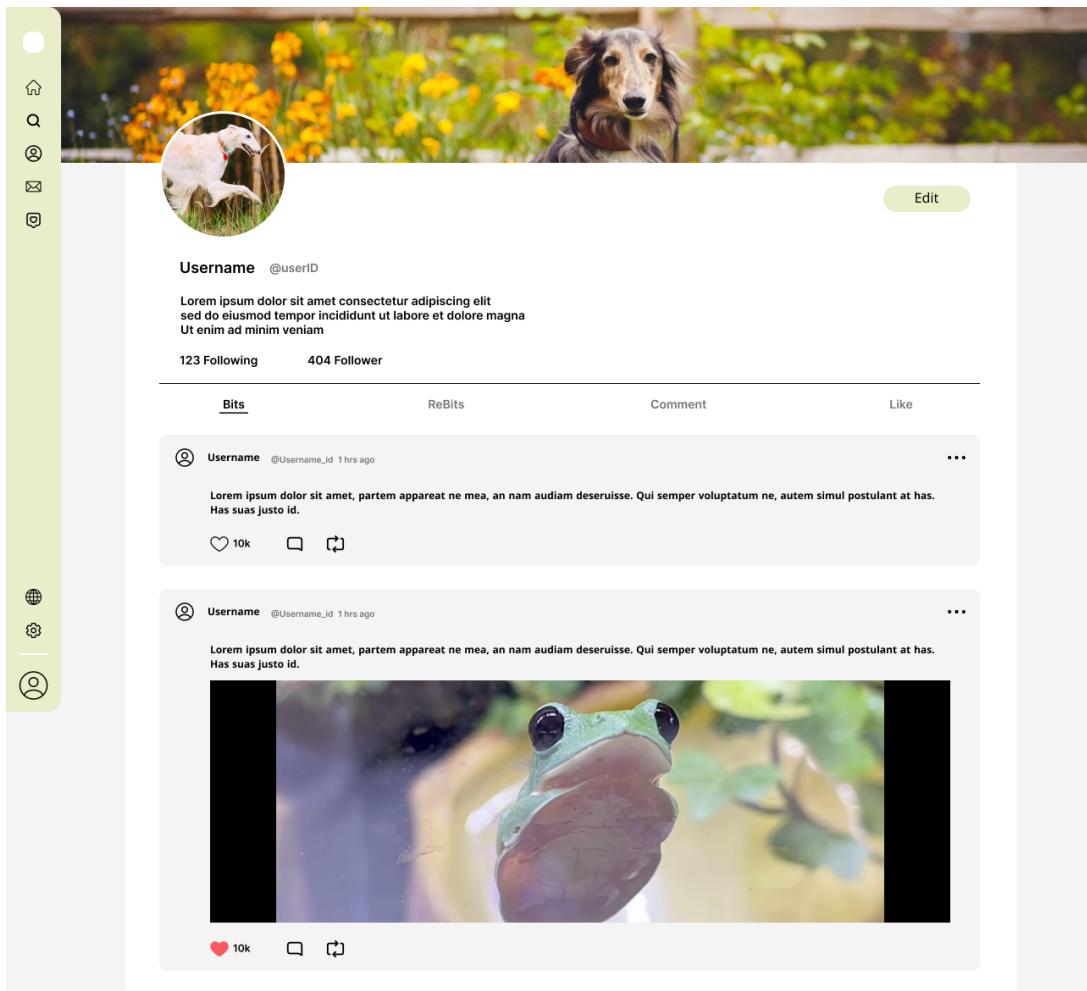


The message page is separated into two parts, the left box shows the followers and users that chat before, Users can see the name of other user and their logos, and they can also search for the user they want to chat with by using the search bar at the top of the box.

The right box shows the chat record and the text typing bar. Users can start a new message by typing text in the bar, they can also send photos or videos by clicking the buttons on left, The chat record shows the sending time of the message.

## 2.6 Profile Page

### 2.6.1 Own Profile

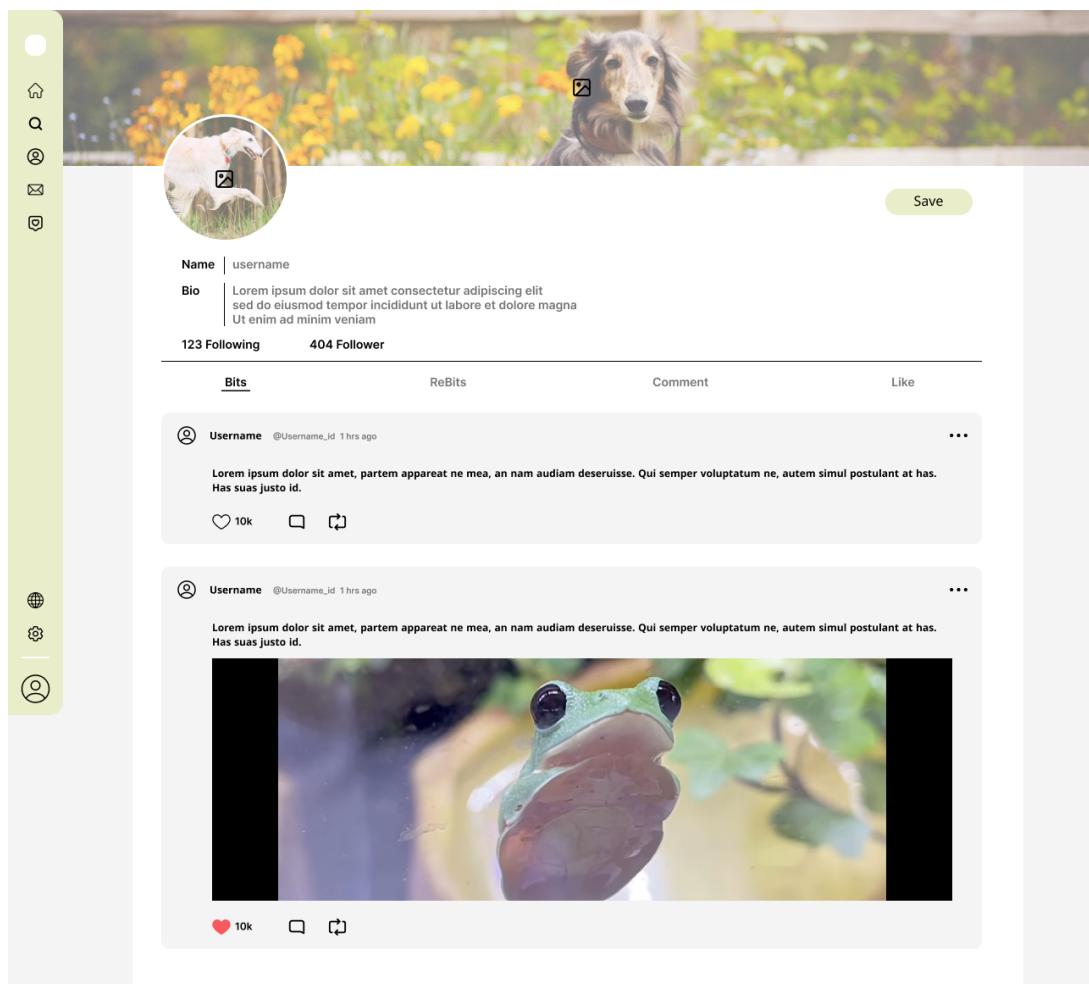


The top of the profile page displays the profile background of the user. And the user logo would be displayed at the left bottom of the profile background. Users can edit the profile by clicking the edit button and it would redirect the user to the edit page. Username, user ID, bio, number of following, and followers are displayed under the logo.

Under the dividing line, there are four tabs that allow users to switch between different sections of the profile. These tabs include:

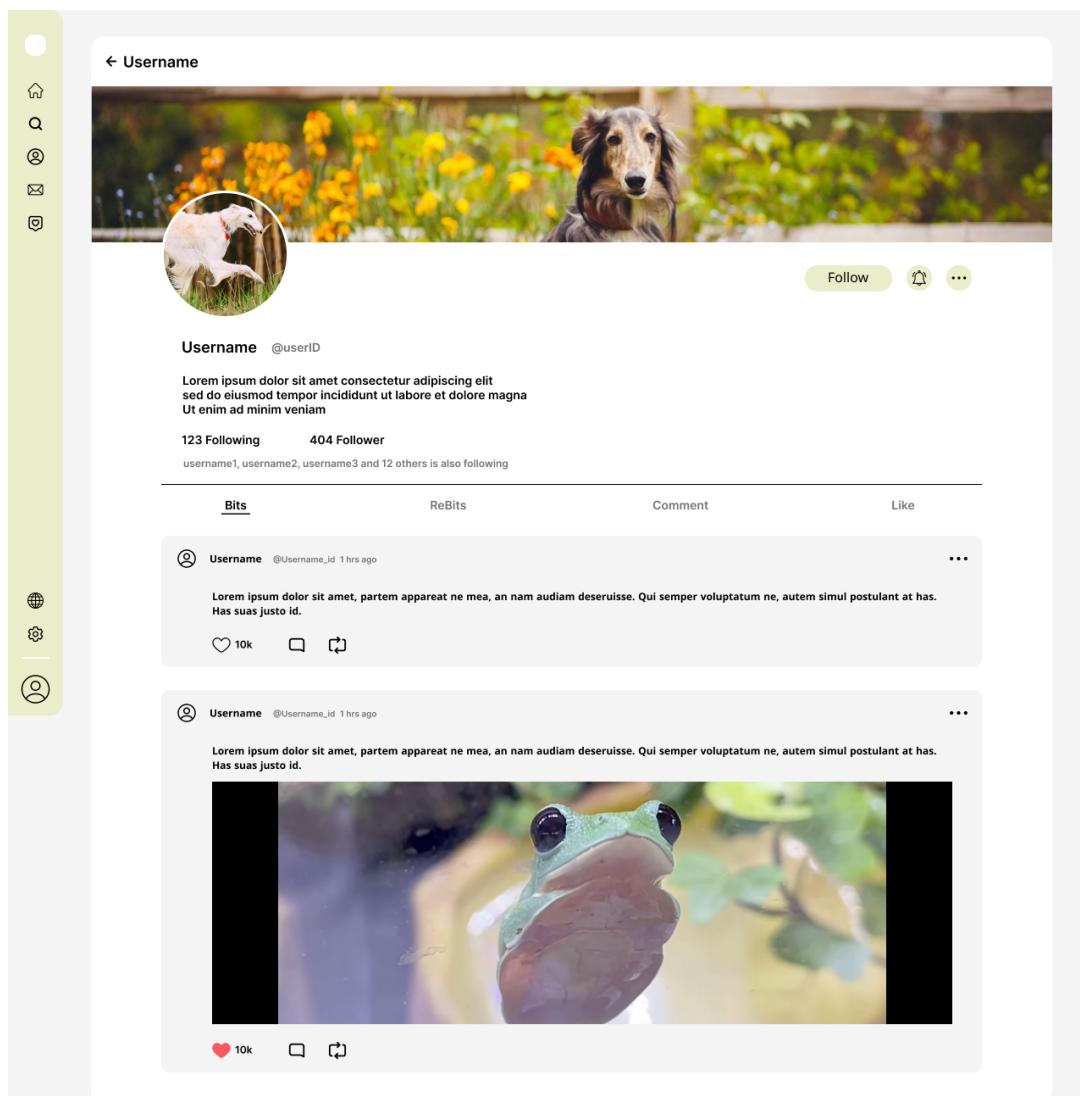
- **Bits:** This section displays the user's most recent Bits, in reverse chronological order. Users can interact with these Bits via the description of Bit page
- **ReBits:** This section displays the Bits that the user has ReBit before.
- **Comment:** This section displays the Bits that the user has commented on.
- **Like:** This section displays the Bits that the user has liked, allowing other users to see what content the user finds interesting or noteworthy.

## 2.6.2 Edit Profile



Users can change the profile background or the logo by clicking the relevant position on the edit page. Also, the user can change the content of the username and bio by typing new text in the text box. The green button at the top right corner can save the changed content.

### 2.6.3 Others Profile



The profile page of other users is basically the same as the self-profile page. Below the header image, there are several buttons at the top right corner of the page, including:

- **Follow:** Users can click the follow button to follow other users.
- **Notification:** Users can click the bell-liked button to receive a notification from the specific user when they post new Bits.
- **Others:** Users can click the "Others" button to get a drop-down menu that allows users to access additional options for interacting with the Bits, including:
  - **Copy link to Bit:** Copy a direct link of the Bit they want for sharing with other users.
  - **Mute:** Mute the account that posted the Bit and the user dislikes the Bit or comments it uploaded.
  - **Block:** Block the account that posted the Bit, preventing it from seeing the user's Bits or interacting with them on the platform.

- **Report:** Report the specific Bit to Beaconet if they believe it violates the platform's rules or terms of service.

The four tabs under the dividing line are basically the same as the profile page of that user.

## 2.7 Setting Page

**Setting Page (Top Screenshot - Your Account Tab)**

- Your Account** (Selected)
- Privacy and safety
- Notification
- Accessibility and display
- Additional Resources

**Your Account**

- Account information**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna
- Change password**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna
- Download an archive of your data**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna
- Deactivate your account**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna

**Setting Page (Bottom Screenshot - Privacy and safety Tab)**

- Your Account
- Privacy and safety** (Selected)
- Notification
- Accessibility and display
- Additional Resources

**Privacy and safety**

- Audience and tagging**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna
- Your Bits**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna
- Content you see**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna
- Mute and block**  
Lorem ipsum dolor sit amet consectetur adipiscing elit sed do eiusmod tempor incididunt ut labore et dolore magna
- Direct message**  
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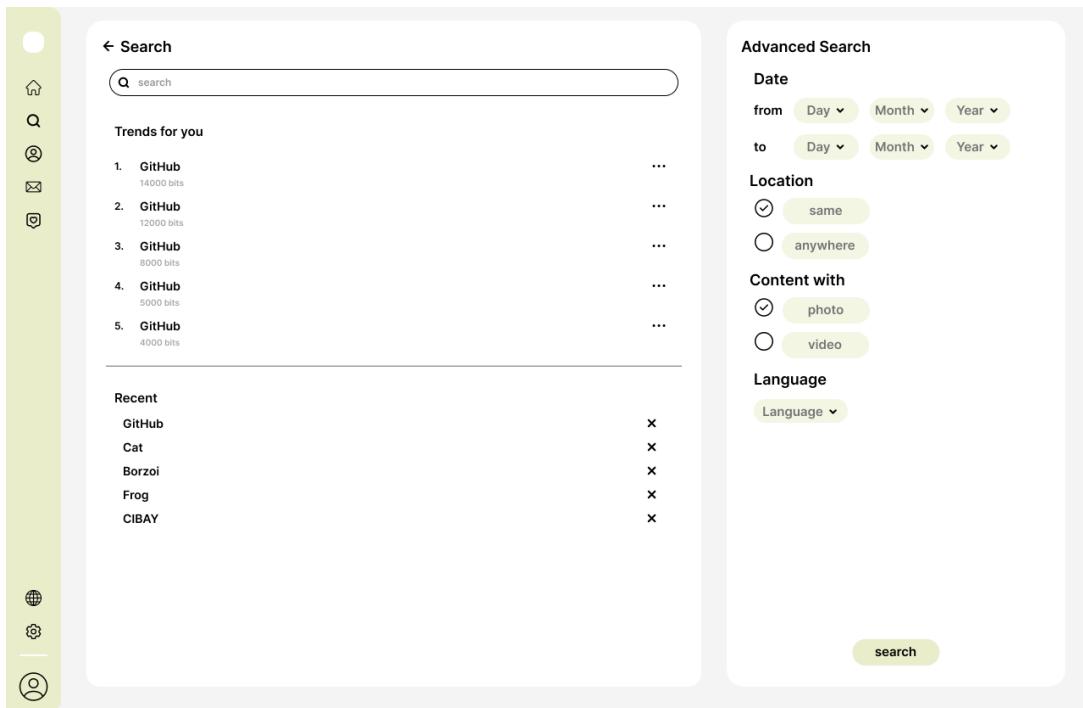
The remaining page is ignored due to page restrictions,  
The Design of the rest is basically the same as these two.

The Beaconet setting page is designed to allow users to customize their accounts and preferences and it features a navigation menu on the left of the page, with different categories:

- **Your Account:** This section includes fields for users to edit their username, email address, and password. Also, users can download an archive of their data and deactivate their accounts through this section.
- **Privacy and safety:** This section includes options for users to control who can see their Bits, who can follow them, and who can send them direct messages. Users can also enable or disable features like two-factor authentication and password reset emails in this section.
- **Notification:** This section includes "Filter" and "Preference" to customize which types of notifications they receive and how often they receive them, also they can mute the specific keyword.
- **Accessibility and display:** This section helps users to customize the display of Bit, also with the ability to enable closed captions on videos and to make better visibility.
- **Additional resources:** This section includes the cookie, privacy policy, and term of service promoted by Beaconet. Users can also contact the help centre here.

## 2.8 Searching Page

### 2.8.1 Search



The Beaconet searching page allows users to search the content on Beaconet. And there is two part, the left one is "Search", while the right one is "Advanced Search".

In the "Search" part, the user can type the content to search in the text box. Under the search box, there are trending searches for the user as well as the trend hit rate (how popular it is). Users can click on the "more" button, which contains "Report", and "Not Interest". Under suggestion search, there is a dividing line and the search history following to the dividing line. Users can click on the cross button to remove the history of the previous search.

At the "Advanced Search" part, the user can narrow down the result by setting the time range, location, content, and language with dropdown/tickbox.

## 2.8.2 Bit Result

The Bit result page displays a feed of posts from different users. Each post card includes a user icon, the username, a timestamp, a preview of the post content (Lorem ipsum placeholder text), a like count (10k), and a 'Comment to this Bit' button. The page also features a sidebar with navigation icons and a 'Trends for you' section listing various topics and their bit counts.

The Bit result page is pretty much similar to the index page, other than no post bit component, and there is an extra tag to switch between results from Bit(Latest) and User(People)

## 2.8.3 User Result

The User result page displays a feed of posts from different users. Each post card includes a profile picture, the username, a timestamp, a preview of the post content (Lorem ipsum placeholder text), and a 'Follow' button. The page also features a sidebar with navigation icons and a 'Trends for you' section listing various topics and their bit counts.

The User result page gives a list of matched users, user can click on usernames to check their profile or the follow button to follow them directly.