



User's Manual and Final Report

by

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1 Introduction

This user manual follows the guidelines laid out in SE 463 for using a user manual as a requirements specification. As such, this user manual serves both as a guide for using the Beanawhile product, and also as Beanawhile's requirements specification.

1.1 Product Overview

Beanawhile is a web application that helps you coordinate meetups with your friends by sharing your upcoming travel plans. Beanawhile's main feature is its ability to show when you and your friends will be in the same location at the same time for future dates, making it easier to arrange meetups.

Beanawhile supports the following features:

- User authentication with email and password.
- Adding and removing friends.
- Inputting your own travel plans.
- Viewing your friends' travel plans.
- Managing your account.

1.2 Sample User Flow

An example of a typical user flow for Beanawhile includes the following steps. In depth explanations of each step are explained in **3 Basic Scenarios**:

1. Sign in to your Beanawhile account using your email and password.
2. Add friends by sending friend requests to other users or accepting friend requests from other users.
3. Add your own travel plans, specifying a location, start date, and end date.
4. View your friends' travel plans to see where and when they will be traveling. View when your friends will be in the same location as you.
5. Sign out to securely end your session.

1.3 Domain Model and World Diagram

A domain model with a superimposed world diagram is shown below in Figure 1.3.1.

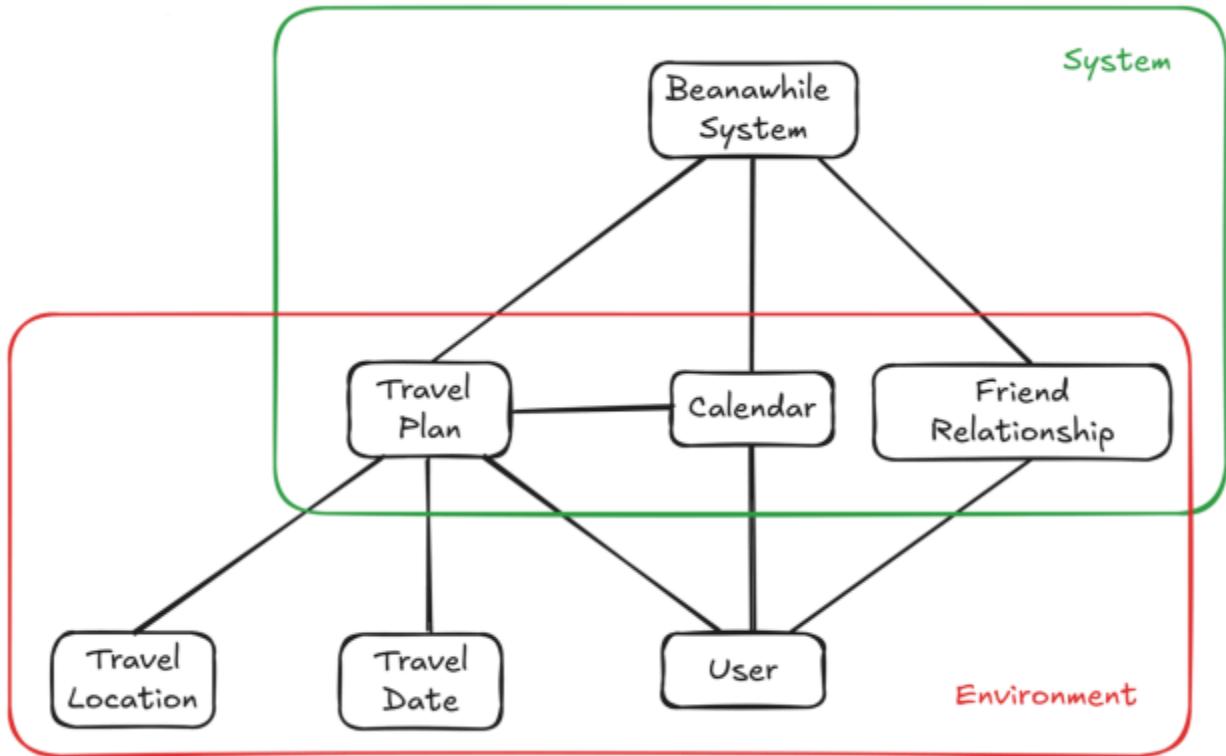


Figure 1.3.1: Domain model with a superimposed world diagram

2 Conventions

2.1 User Assumptions

You, a user of Beanawhile, are assumed to have a device with a browser that is connected to the internet often enough such that you are able to access a web-based application while you travel without hindering your experience. You are assumed to be knowledgeable in interacting with such an application, via clicking on buttons and links using a mouse, or inputting a location using a keyboard. It is also assumed that you can read and write in English.

2.2 Notational Conventions

The following notational conventions are used in this manual:

"Double quotes"	Exact text from the Beanawhile application.
Bold text	Section names from this manual.
<i>Italic text</i>	An alternative or exceptional scenario. Exceptions for each use case will be preceded by the label " <i>Exception:</i> " Alternative scenarios for each use case will be preceded by the label " <i>Alternative:</i> "
<u>Underlined text</u>	An assumption about a scenario or step. Assumptions for each use case will be preceded by the label " <u>Assumption</u> ".
<u>Blue underlined text</u>	A hyperlink.
Black filled rounded rectangle in a figure: 	Redacted information.
Red outlined rectangle in a figure: 	Notable region.

2.3 Terms

The following terms are used in this manual:

Button	A clickable labeled element that initiates an action.
Click	Press down on the left mouse button then release it once.
Click and hold	Press the left mouse button without releasing. Release only when directed to do so.
User	A person that interacts with the Beanawhile application.
Confirmation email	An email sent to a user for verification purposes when certain actions, like password resets, are initiated.
Error message	A pop-up or text box that appears to notify a user of invalid input or other issues.
Field	An input area within a form where users enter specific information; entering something into a field means typing the required information.
Friend request	A request sent to another user to add them as a friend in the app.
Link	A clickable text that redirects to another page, section, or external site.
Navigation bar	A bar at the top of the page that includes clickable tabs for navigating around the application.
Popup	A small dialog box that appears in front of the current page to prompt a user for information.
Travel plan	A record in a user's calendar that includes the location, start date, and end date of an upcoming trip.
User authentication	The process of verifying a user's identity to ensure that user has the appropriate credentials to access their account.
System	Used to refer to the Beanawhile application.

2.4 Organization of this Manual

The rest of this manual is organized mainly based on scenarios. The section **3 Basic Scenarios** describes basic scenarios for sharing future travel plans among friends. The

section **4 Advanced Scenarios** describes more advanced scenarios, such as account management. The limitations of Beanawhile are discussed in section **5 Limitations** which also includes further assumptions not listed with any use case.

3 Basic Scenarios

All interactions assume that the Beanawhile website is accessible at beanawhile.evanzhang.ca, you have a device with a browser that is connected to the internet such that you would be able to access the website, and you have opened the website before beginning the steps outlined in a use case. It is assumed that you open a new instance of the website for each use case, and thus will always start on the sign in webpage.

3.1 User Authentication

3.1.1 Sign Up

Assumption: You have a valid email address that can receive emails, and you can access its inbox. Additionally, this email address has not been registered to an existing Beanawhile account. To sign in to an existing account, use the **3.1.2 Sign In** process.

Assumption: The email mailbox does not block or mark as spam sign up emails sent by Beanawhile. If it does, emails may not be receivable or may be in the spam folder.

To create a new account on Beanawhile, follow these steps:

1. Click the "Sign up" link on the sign in page, as shown in Figure 3.1.1.1.

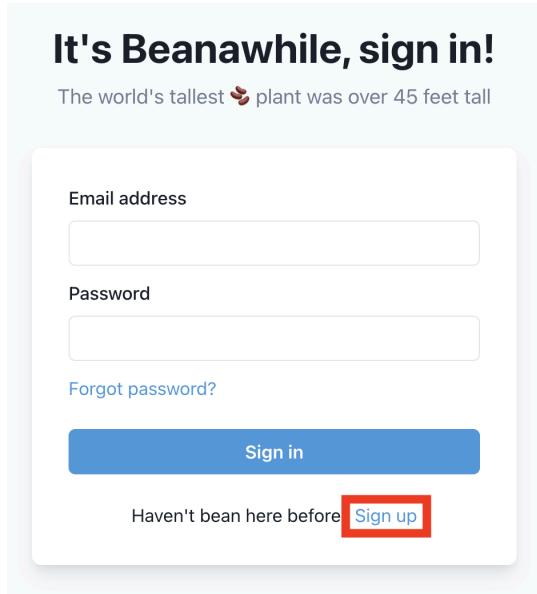


Figure 3.1.1.1: Sign up link on the sign in page

2. Enter your email address in the "Email address" field and a valid password in the "Password" field, as shown in Figure 3.1.1.2. A valid password is at least 8 characters in length and contains letters and numbers.
 - *Exception:* If the inputted email address is invalid, the system shall prevent you from clicking the "Sign up" button.
 - *Exception:* If the inputted password does not follow the previously mentioned regulations, the system shall display an error message and you shall be prevented from clicking the sign up button.

The screenshot shows the "It's Beanawhile, sign up!" sign-up page. At the top, it says "The world's tallest 🌱 plant was over 45 feet tall". Below that is a form with three fields: "Name *", "Email address *", and "Password *". The "Name" field contains "Evine". The "Email address" field contains "evine@evine.com". The "Password" field contains "....." and has a visibility icon. Below the password field are two validation messages: "At least 8 characters in length." and "Contains letters and numbers.". A blue "Sign up" button is at the bottom of the form. Below the form, a link says "Bean here before? [Sign in](#)".

Figure 3.1.1.2: Valid email address and valid password entered on the sign up page

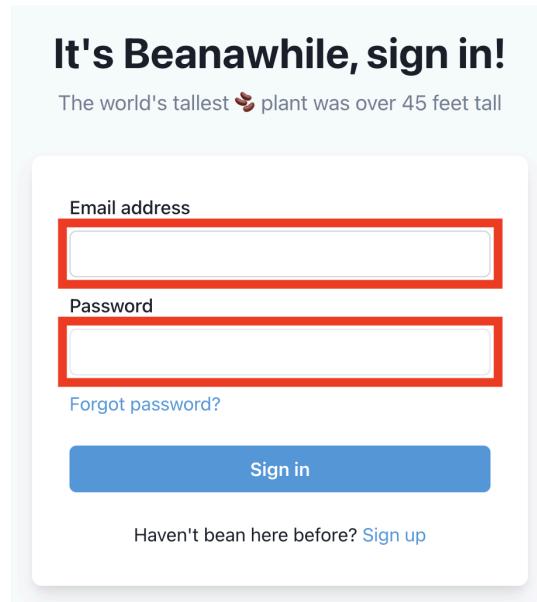
3. Click the "Sign up" button. The system shall redirect you to a page prompting you to confirm your email address.
4. Navigate to your mailbox and search for the email sent to you from beanawhile@evanzhang.ca. Follow the instructions in the email to verify your email address.
 - *Exception:* If the email does not resolve to a valid mailbox, no email shall be sent by the website.
 - *Exception:* If the email confirmation has not been interacted with within 10 minutes of delivery, its actions shall be void and you will need to restart the process again.
5. If your email address has been successfully validated, the system shall create a new user account for you and shall redirect you to the sign in page. To sign in, use the **3.1.2 Sign In** process.
 - *Exception:* If the inputted email is already associated with a Beanawhile account, the system shall display an error message and prompt you to try to sign up again.

3.1.2 Sign In

Assumption: You have an existing account on Beanawhile. If not, sign up using the **3.1.1 Sign Up** process.

You can sign in by following these steps:

1. Enter your email address in the "Email address" field and password in the "Password" field of the sign in page, as shown in Figure 3.1.2.1.
 - *Alternative:* If you forget your password, you can reset your password using the **4.1.1 Reset Password** process.



The image shows a sign-in form titled "It's Beanawhile, sign in!". It features a subtext: "The world's tallest 🌱 plant was over 45 feet tall". The form has two input fields: "Email address" and "Password", both of which are highlighted with a red border. Below the fields is a "Forgot password?" link. At the bottom is a blue "Sign in" button. A small link "Haven't bean here before? Sign up" is located at the very bottom.

Figure 3.1.2.1: Email address and password fields on the sign in page

2. Click the “Sign in” button. If successful, the system shall redirect you to the homepage that looks something like Figure 3.1.2.2.
 - *Exception:* If you input an incorrect email-password combination, the system shall display an error message and prompt you to try again.

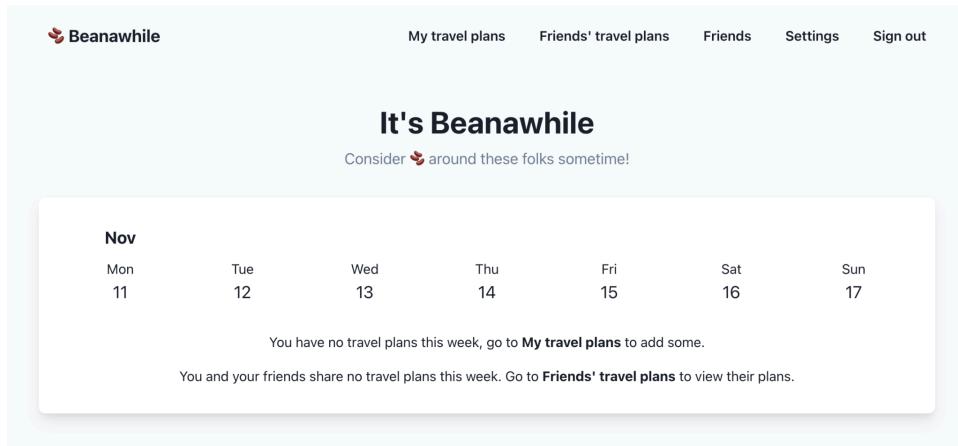


Figure 3.1.2.2: Authenticated user's homepage

3.1.3 Sign out

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

You can sign out by following these steps:

1. Click the "Sign out" tab in the navigation bar as shown in Figure 3.1.3.1.

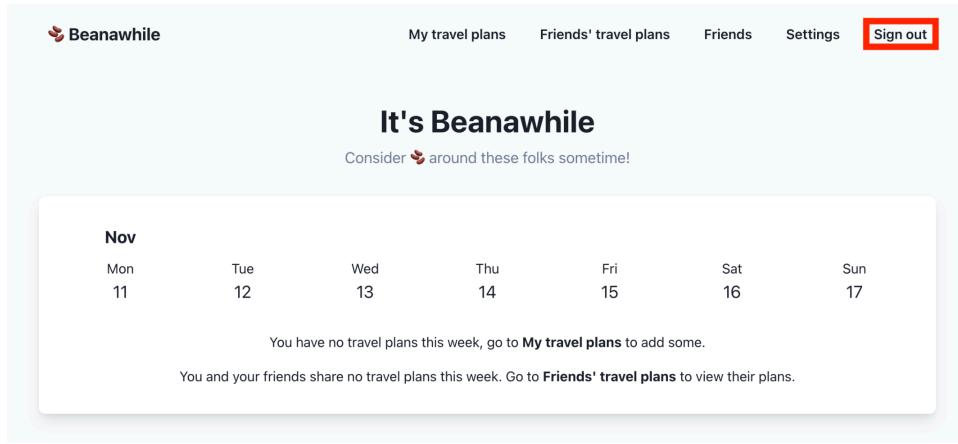


Figure 3.1.3.1: "Sign out" tab in the navigation bar

2. The system shall sign you out and redirect to the sign in page.

3.2 Friends and Friend Requests

3.2.1 Send Friend Request

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the

3.1.2 Sign in process.

Assumption: Your friend has an existing Beanawhile account associated with their email address. If not, your friend may sign up using the **3.1.1 Sign Up** process.

Assumption: The email address of the friend is not your email address.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To add a friend and view their travel plans:

1. Click on the “Friends” tab in the navigation bar, as shown in Figure 3.2.1.1.

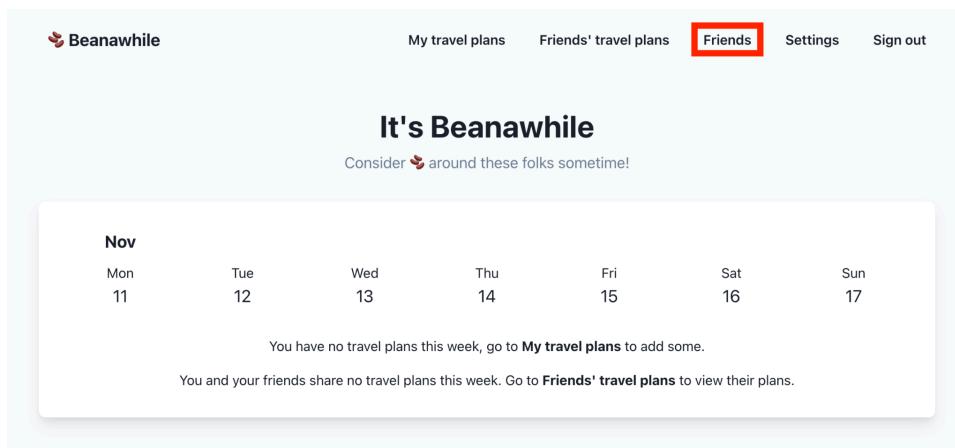


Figure 3.2.1.1: “Friends” tab in the navigation bar

2. Enter your friend’s email address associated with their Beanawhile account in the “Send Friend Request” field.

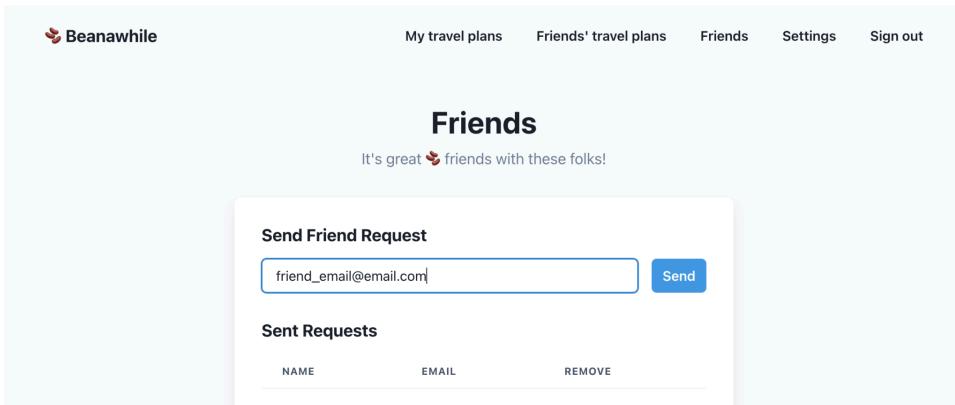


Figure 3.2.1.2: Friend's email address entered in the send friend request field on the friends page

3. Click the "Send" button.
 - *Exception:* If you input an email address that belongs to a user that is already in your friends list, the system shall display an error message and not send a request.
 - *Exception:* If you input your own email address, the system shall display an error message and not send a request.
 - *Exception:* If you input an email address of a user that you already have a pending friend request with then the system shall display an error message and not send a request.
 - *Exception:* If you input an email address that is not associated with an existing Beanawhile account, the system shall display an error message and not send a request.
4. The selected user receives a friend request. If the recipient accepts your request, the system shall give you access to view that friend's travel plans and other information depending on that friend's permission settings.

3.2.2 Accept Friend Request

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To accept a friend request from another user:

1. Click on the “Friends” tab in the navigation bar as shown in Figure 3.2.2.1.

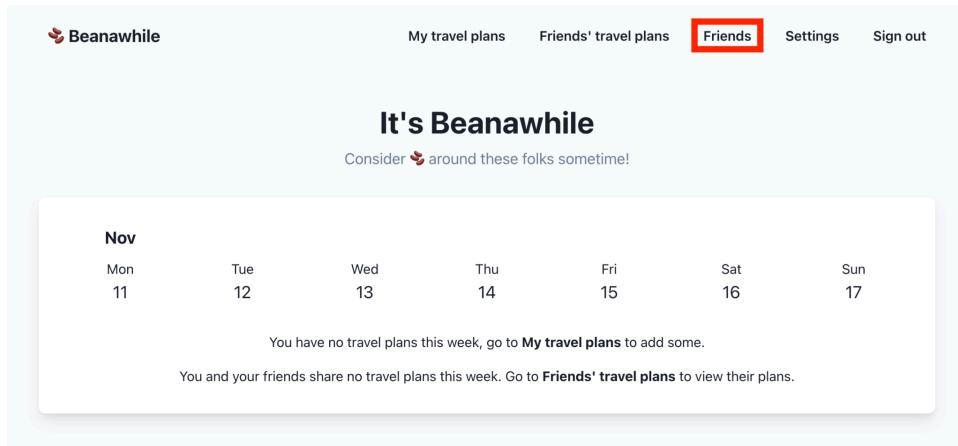


Figure 3.2.2.1: “Friends” tab in the navigation bar

2. Determine the friend request you would like to accept under the “Incoming Requests” header as shown in Figure 3.2.2.2.
 - *Exception:* If the user whose request you would like to accept has not sent you a friend request, the system shall not display the corresponding request under “Incoming Requests”. The user can send you a friend request using the **3.2.1 Send Friend Request** process.

Incoming Requests

NAME	EMAIL	APPROVE	DENY
Evan	[REDACTED]	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figure 3.2.2.2: Incoming Friend Requests

3. Click the checkmark to accept the friend request as shown in Figure 3.2.2.2.
4. If accepted, the system shall give you and your friend access to view each other’s information depending on the permissions set under settings. Use the **3.2.4 View Friends** process to see your new friend, the **3.2.5 Remove Friend** to remove your new friend, or the **3.4 Your Friends’ Travel Plans** process to view you and your friend’s overlapping travel plans.

3.2.3 Decline Friend Request

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the

3.1.2 Sign in process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To decline a friend request from another user:

1. Click on the “Friends” tab in the navigation bar as shown in Figure 3.2.3.1.

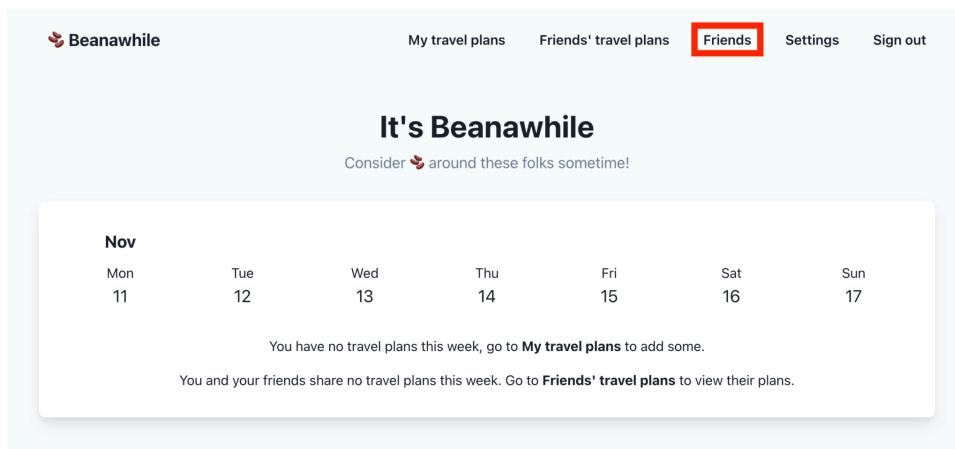


Figure 3.2.3.1: “Friends” tab in the navigation bar

2. Determine the friend request you would like to decline under the “Incoming Requests” header as shown in Figure 3.2.3.2.

- *Exception:* If the user whose request you would like to decline has not sent you a friend request, the system shall not display the corresponding friend request under “Incoming Requests”. The user can send you a friend request using the **3.2.1 Send Friend Request** process.

Incoming Requests

NAME	EMAIL	APPROVE	DENY
Evan	[REDACTED]	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figure 3.2.3.2: Incoming Friend Requests

- Click the minus to decline the request as shown in Figure 3.2.3.2.

3.2.4 View Friends

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To accept a friend request from another user:

- Click on the “Friends” tab in the navigation bar as shown in Figure 3.2.4.1.

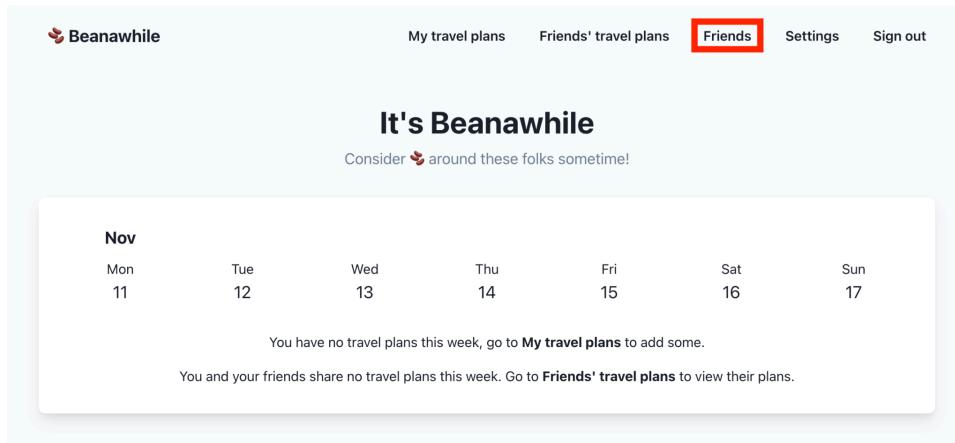


Figure 3.2.4.1: “Friends” tab in the navigation bar

- The system shall display your friends under the “Friends” header as shown in Figure 3.2.4.2.

NAME	EMAIL	REMOVE
Akira	[REDACTED]	■
Tony Chen	[REDACTED]	■
Testing	[REDACTED]	■
Raymond Zhang	[REDACTED]	■

Figure 3.2.4.2: Your friends list

3.2.5 Remove Friends

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the

3.1.2 Sign in process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

Alternative: To remove all your friends, click the “Remove All Friends” button on the homepage.

To remove a single friend:

1. Click on the “Friends” tab in the navigation bar as shown in Figure 3.2.4.1.

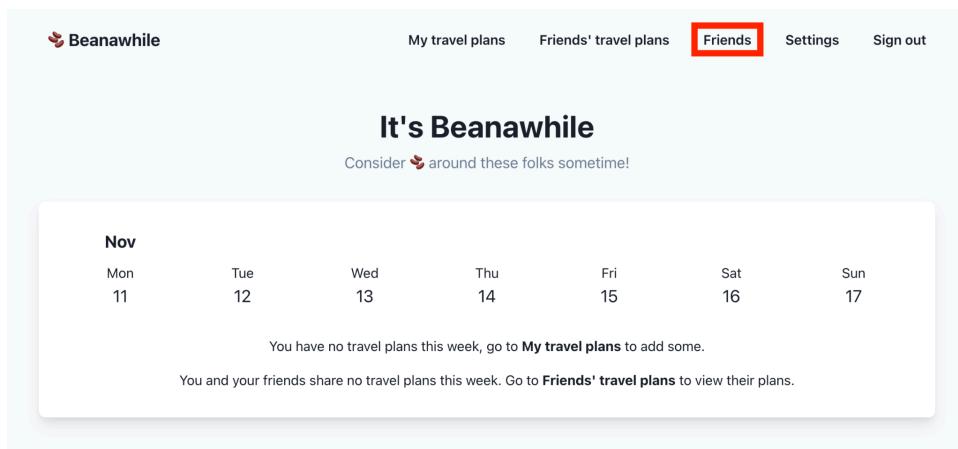


Figure 3.2.5.1: "Friends" tab in the navigation bar

2. The system shall display your friends under the “Friends” header as shown in Figure 3.2.5.2.
 - *Exception:* If the user who you would like to remove is not in your friends list, the system shall not display that user under “Friends”. The user can send you a friend request using the **3.2.1 Send Friend Request** process.

Friends		
NAME	EMAIL	REMOVE
Akira	[REDACTED]	■
Tony Chen	[REDACTED]	■
Testing	[REDACTED]	■
Raymond Zhang	[REDACTED]	■

Figure 3.2.5.2: Your friends list

- Click the trash bin icon to remove the friend as shown in Figure 3.2.5.2.

3.3 Your Own Travel Plans

3.3.1 Add or Change Travel Plan

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To set a location for where you will be on a specific date range, you can add or override a travel plan:

- Click the "My travel plans" tab in the navigation bar as shown in Figure 3.3.1.1.

Figure 3.3.1.1: "My travel plans" tab in the navigation bar

2. On the "My travel plans" page, click and hold on the start date of your travel as shown in Figure 3.3.1.2.1, drag to the end date of your travel, and release your cursor as shown in Figure 3.3.1.2.2.
- *Exception:* If the selected start date is strictly after the selected end date, the system shall display an error message and prompt you to reselect the start date and end date.

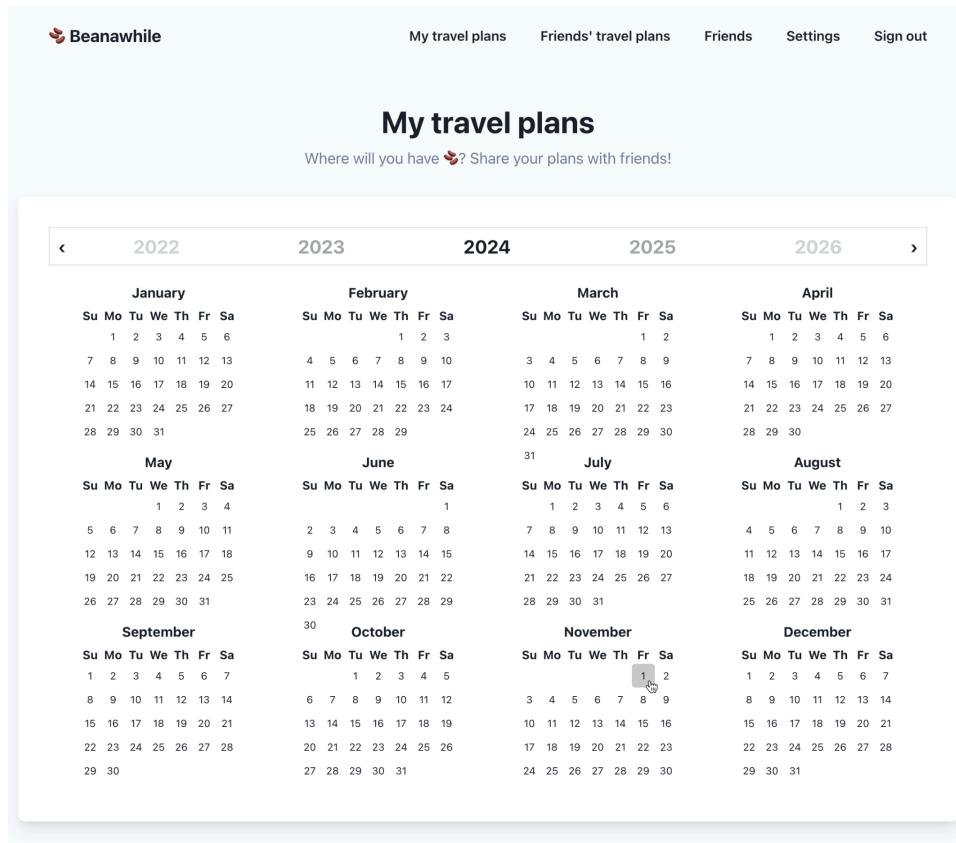


Figure 3.3.1.2.1: Example of clicking and holding on the start date of your travel

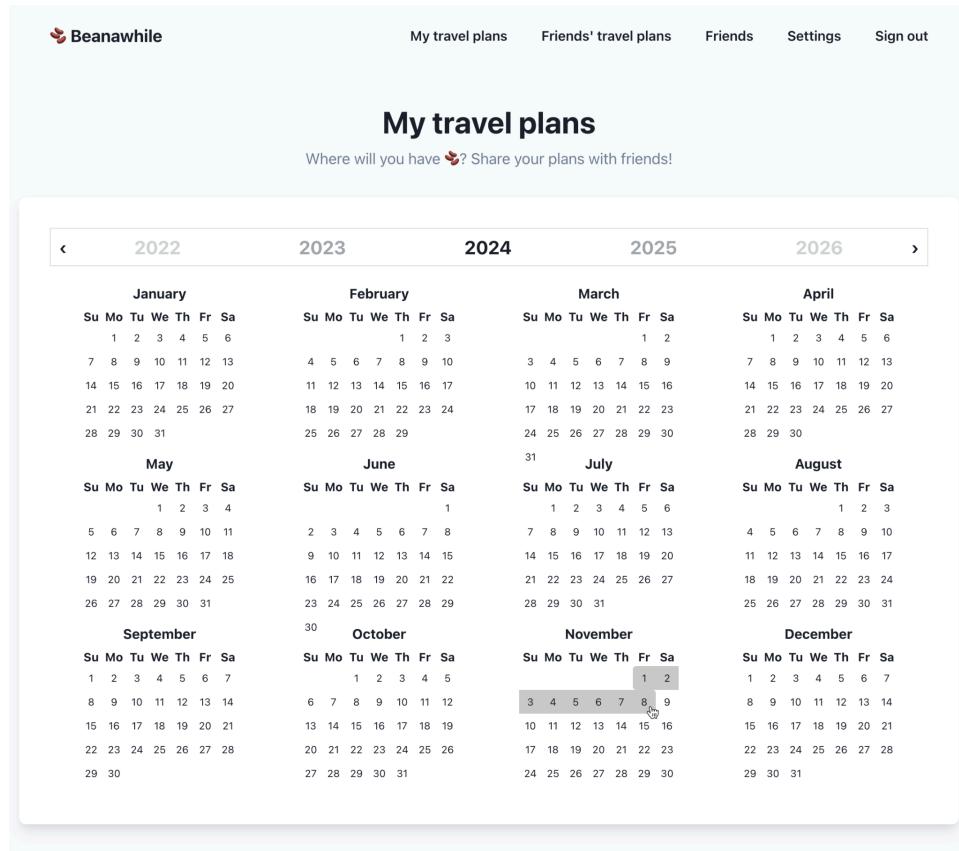


Figure 3.3.1.2.2: Example of dragging to the end date of your travel

3. Enter the location of your travel plan in the popup by typing the name of the location and selecting from the list of options that appear, as shown in Figure 3.3.1.3.
 - *Exception:* If the location entered is not a valid location as determined by Beanawhile, then no location options shall be displayed.

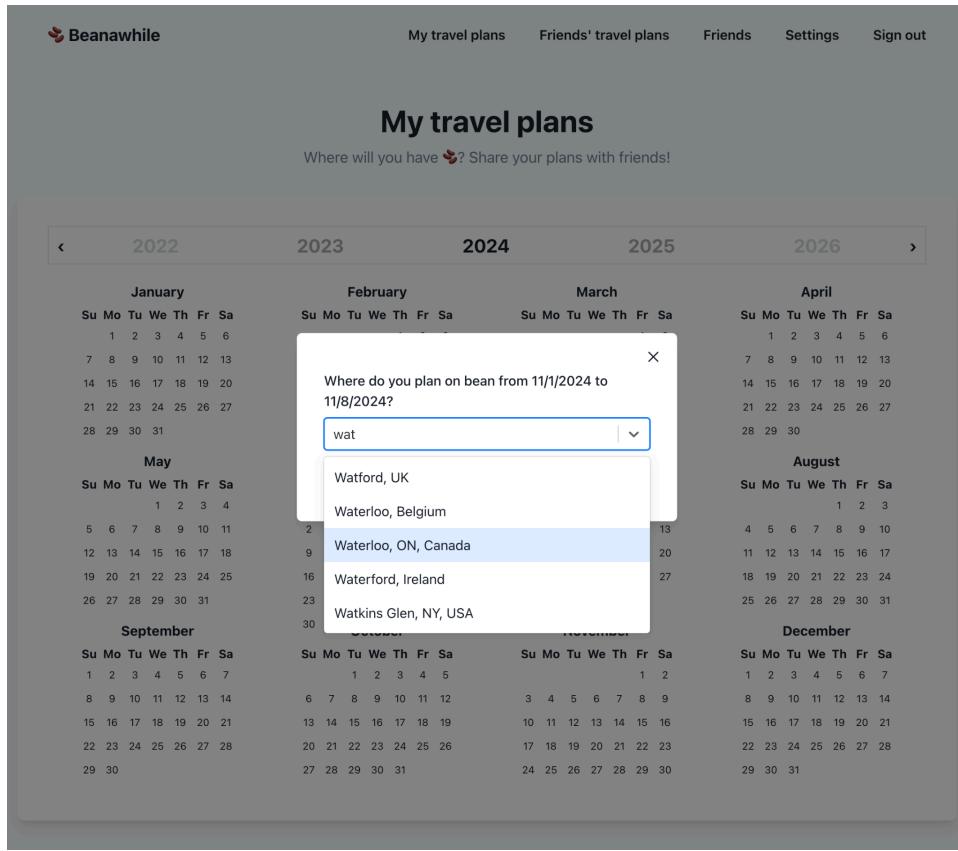


Figure 3.3.1.3: Example of a location entered in the popup

- Click the “Confirm” button on the travel plan popup, as shown in Figure 3.3.1.4.

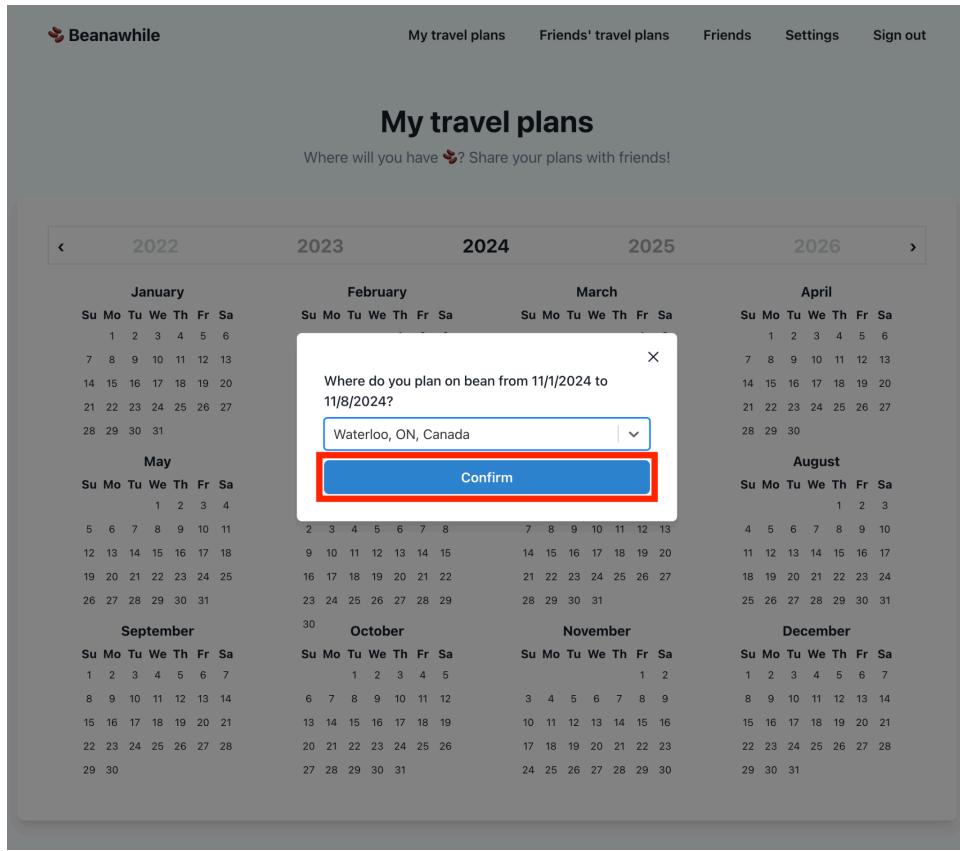


Figure 3.3.1.4: "Confirm" button on the travel plan popup

5. The new travel plan shall appear in the calendar, as shown in Figure 3.3.1.5.

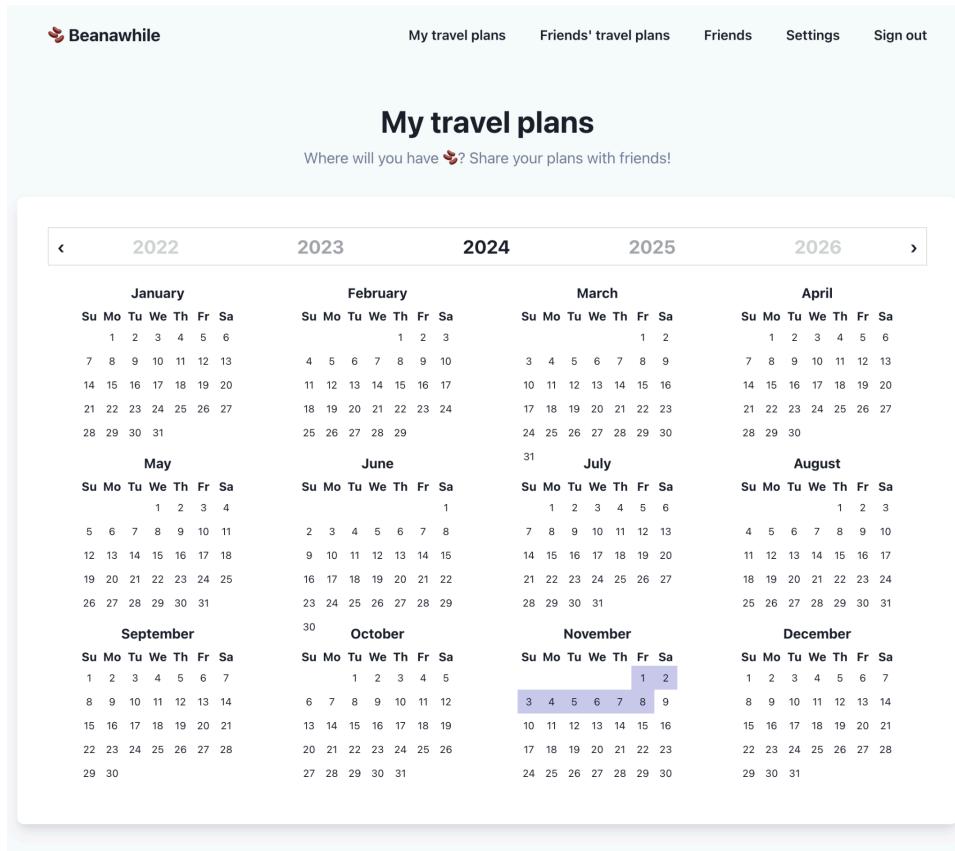


Figure 3.3.1.5: Example of a new travel plan in the calendar

3.3.2 Remove Travel Plan

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

Alternative: To remove all your travel plans, click the “Remove All Travel Plans” button on the homepage.

To remove travel plans for a specific date range:

1. Click the "My travel plans" tab in the navigation bar as shown in Figure 3.3.2.1.

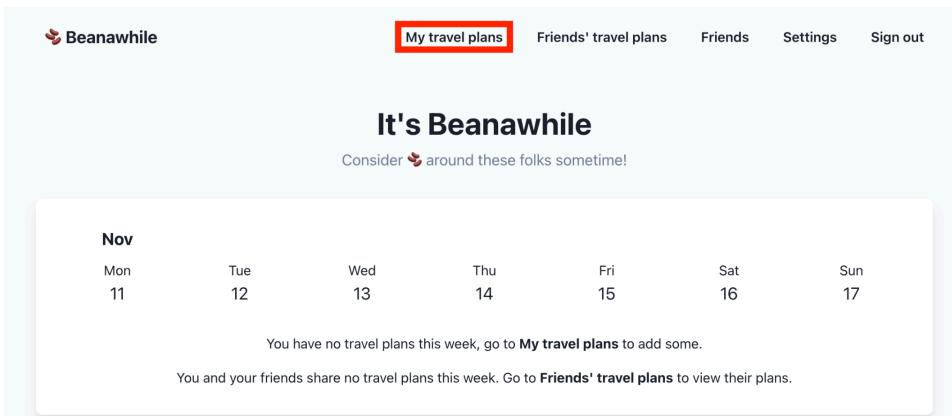


Figure 3.3.2.1: "My travel plans" tab in the navigation bar

2. On the "My travel plans" page, click and hold on the start date of the range you would like to remove travel plans for, drag to the desired end date, and release your cursor.
 - *Exception:* If the selected start date is strictly after the selected end date, the system shall display an error message and prompt you to reselect the start date and end date.
 - *Exception:* If the selected date range does not have travel plans inputted for at least one of the days, the system shall prevent you from performing the next step.
3. Click the "Remove Plans" button in the popup.
4. All travel information is removed for the selected range. No meetups with you shall be shown for that range.

3.4 Your Friends' Travel Plans

3.4.1 View Friend's Travel Plans on a Calendar

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To see upcoming overlapping trips for friends organized in a calendar:

1. Click the "🍀 Beanawhile" tab in the navigation bar as shown in Figure 3.4.1.1.

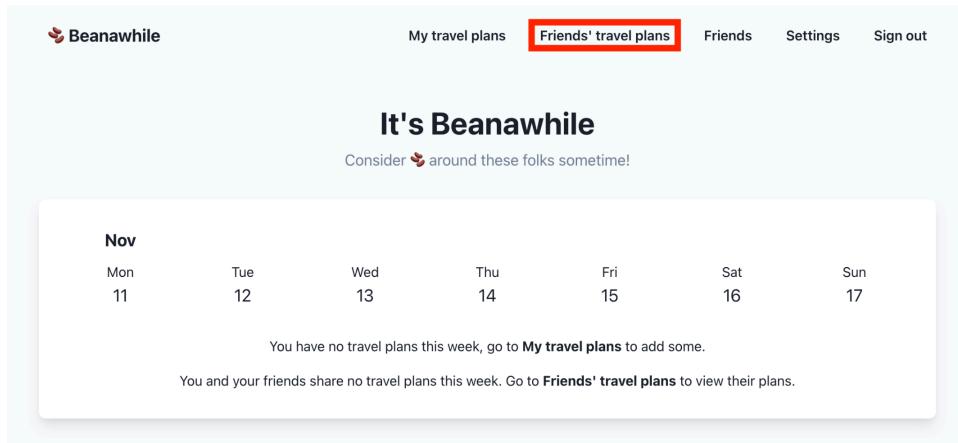


Figure 3.4.1.1: "🌱 Beanawhile" tab in the navigation bar

2. Find overlapping trips with your friends in the displayed weekly calendar as shown in Figure 3.4.1.2.
 - *Exception:* If the user is not a friend, the system shall not display that user's travel plans. The user can send you a friend request using the **3.2.1 Send Friend Request** process.

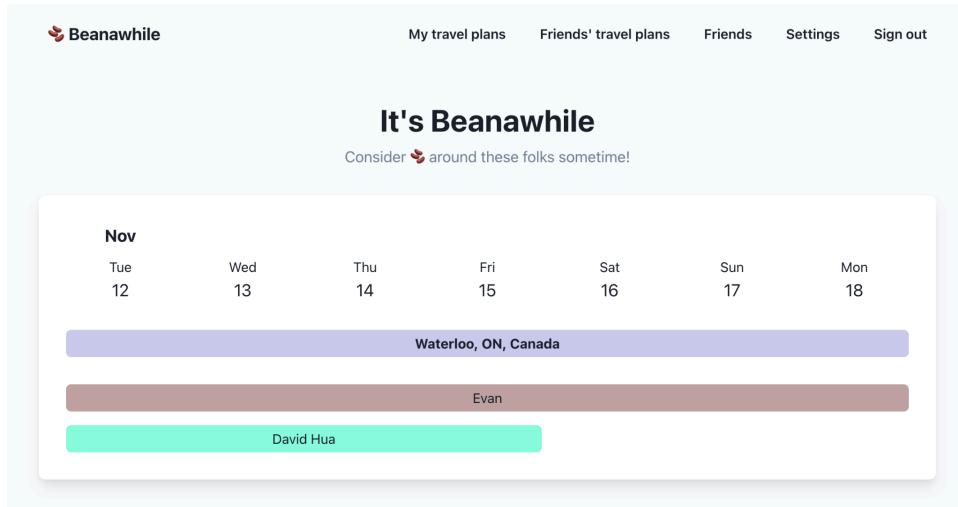


Figure 3.4.1.2: Weekly calendar with friends' travel plans

3. You may click on a friend's name to view their user profile.

3.4.2 View Friends' Travel Plans on a Map

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To see upcoming overlapping trips for friends organized on an interactive map:

1. Click the "Friends' travel plans" tab in the navigation bar as shown in Figure 3.4.2.1.

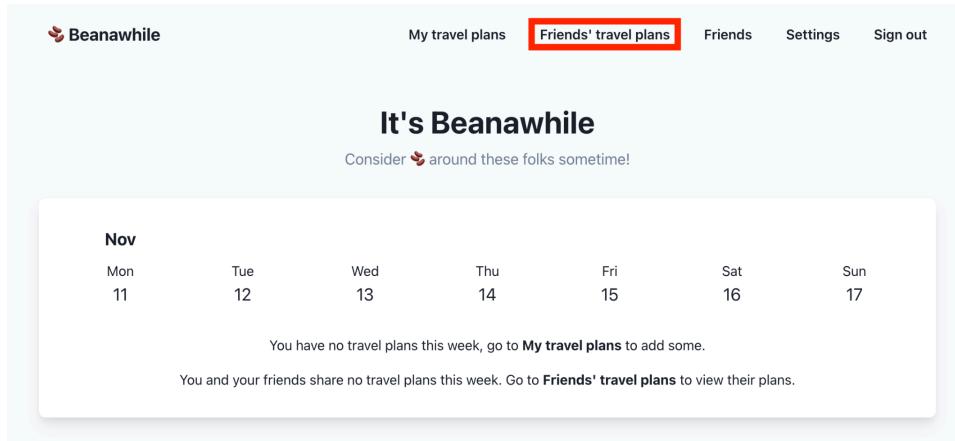


Figure 3.4.2.1: "Friends' Travel Plans" tab in the navigation bar

2. You shall be redirected to the "Map" tab on the "Friends' travel plans" page, as shown in Figure 3.4.2.2.

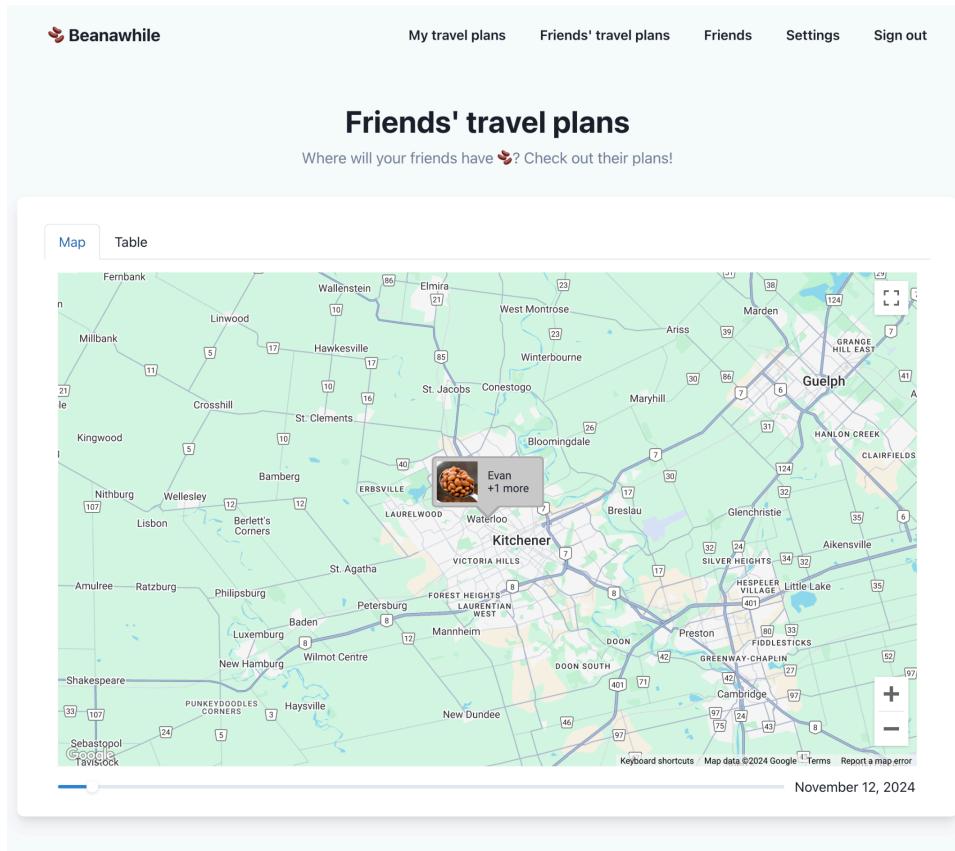


Figure 3.4.2.2: "Map" tab on the "Friends' travel plans" page

3. Use the date slider to find overlapping travel plans with your friends on the map. The system shall show the location of your friends on the selected date as pinpoints on the map.
 - *Exception:* If the user is not a friend, the system shall not display that user's travel plans. The user can send you a friend request using the **3.2.1 Send Friend Request** process.
4. You may click on a friend's name to view their user profile.

3.4.3 View Friends' Travel Plans on a Table

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To see upcoming overlapping trips for friends organized as a table:

- Click on the "Friends' travel plans" tab in the navigation bar as shown in Figure 3.4.3.1.

The screenshot shows the Beanawhile application interface. At the top, there is a navigation bar with the following items: Beanawhile logo, My travel plans, Friends' travel plans (which is highlighted with a red border), Friends, Settings, and Sign out. Below the navigation bar, the title "It's Beanawhile" is displayed, followed by the subtext "Consider 🌟 around these folks sometime!". A weekly calendar for November is shown, with days from Monday 11 to Sunday 17. A message below the calendar states, "You have no travel plans this week, go to [My travel plans](#) to add some." Another message at the bottom says, "You and your friends share no travel plans this week. Go to [Friends' travel plans](#) to view their plans."

Figure 3.4.3.1: "Friends' travel plans" tab in the navigation bar

- Click on the "Table" tab on the "Friends' travel plans" page, as shown in Figure 3.4.3.2.

The screenshot shows the Beanawhile application interface, specifically the "Friends' travel plans" page. At the top, there is a navigation bar with the following items: Beanawhile logo, My travel plans, Friends' travel plans (highlighted with a red border), Friends, Settings, and Sign out. Below the navigation bar, the title "Friends' travel plans" is displayed, followed by the subtext "Where will your friends have 🌟? Check out their plans!". There are two tabs at the top of the content area: "Map" and "Table" (which is highlighted with a red border). Below the tabs are several filter options: "Filter friends", "Filter locations", "Start date", "End date", and a dropdown for "Only show entries where friends will be within" with a distance of "100 km away". A checkbox for "Show all entries" is also present. The main content area is a table listing travel plans for a friend named Evan. The columns are labeled: FRIEND, LOCATION, FROM, TO, and CONTACT. The data in the table is as follows:

FRIEND	LOCATION	FROM	TO	CONTACT
Evan	Toronto, ON, Canada	1/1/2023	1/6/2023	✉️
Evan	Waterloo, ON, Canada	1/8/2023	2/16/2023	✉️
Evan	Waterloo, ON, Canada	2/27/2023	4/28/2023	✉️
Evan	Toronto, ON, Canada	5/1/2023	5/5/2023	✉️
Evan	New York, NY, USA	6/5/2023	7/21/2023	✉️
Evan	New York, NY, USA	8/3/2023	8/4/2023	✉️
Evan	New York, NY, USA	8/8/2023	8/19/2023	✉️

Figure 3.4.3.2: "Table" tab on the "Friends' travel plans" page

- Use the table to find overlapping travel plans with your friends. The system shall show the travel plans of your friends as rows in the table.
 - *Exception:* If the user is not a friend, the system shall not display that user's travel plans. The user can send you a friend request using the **3.2.1 Send Friend Request** process.
 - *Alternative:* Various filters are available on the table view. Each of the filters are conjunctive with one another. That is, an entry will be shown if and only if it matches all non-empty filters:
 - To show only a specific friend's travel plans, enter the display name into the input box with the placeholder value "Filter friends" shown in Figure 3.4.3.2.
 - To show only travel plans to a certain location, enter the name of the location in the box with placeholder value "Filter locations".
 - To show only travel plans that begin on a certain day, click on the input labeled "Start date" and select the desired start day from the calendar picker.
 - To show only travel plans that end on a certain day, click on the input labeled "End date" and select the desired end day from the calendar picker.
 - *Exception:* If any of the entered non-empty filters are invalid and cannot be satisfied by any travel plans, for instance if a location that does not exist is entered, the system shall display a blank table.
 - *Alternative:* To order friends' travel plans by a specific column such as location, click the corresponding table column header.
- You may click on a friend's name to view their user profile.

4 Advanced Scenarios

4.1 Account Management

4.1.1 Reset Password While Signed In

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

To reset your password:

1. Click on the “Settings” button in the navigation bar as shown in Figure 4.1.1.1.

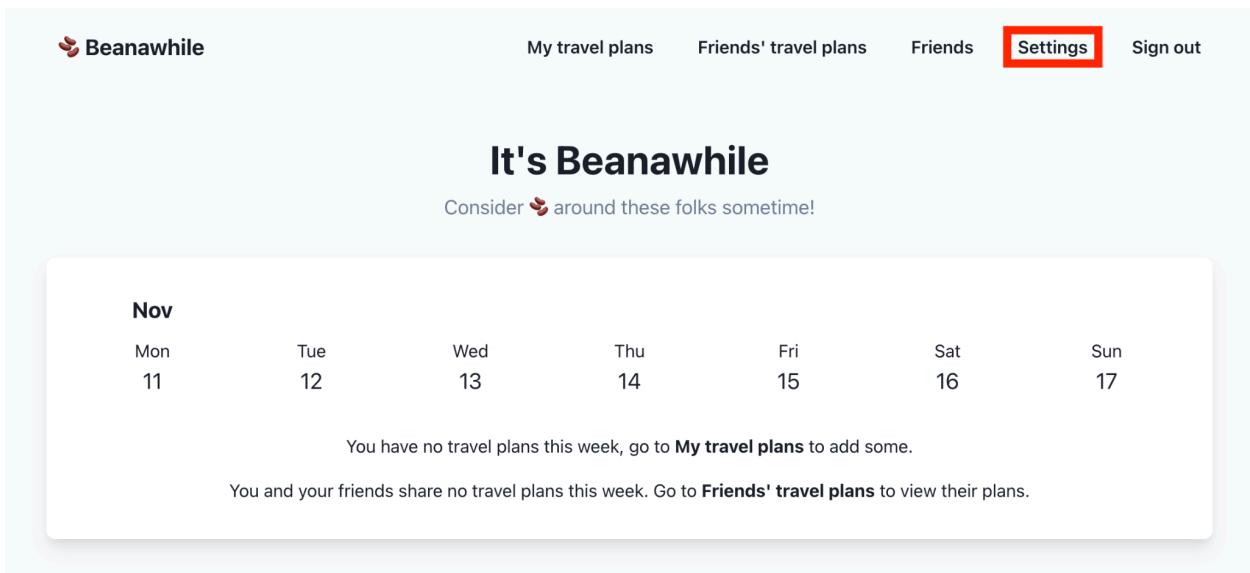


Figure 4.1.1.1: “Settings” tab in the navigation bar

2. Click on the “Reset Password” tab on the left hand side of the page.
3. Type in your current password and desired new password in the respective fields. A valid password is at least 8 characters in length and contains letters and numbers.
 - *Exception:* If the inputted new password does not follow the previously mentioned regulations, the system shall display an error message and you shall be prevented from resetting your password.

- *Exception:* If the inputted new password is the same as the existing password, the system shall display an error message and you shall be prevented from resetting your password.
4. Click the “Change Password” button to confirm the password change.
 - *Exception:* If the inputted current password does not match your existing password, the system shall display an error message and you shall be prevented from resetting your password. If you do not know your current password, use the **4.1.2 Reset Password While Signed Out** process to reset your password.
 5. The system shall sign you out upon a successful change. Follow the **3.1.2 Sign in** process to sign back into Beanawhile.

4.1.2 Reset Password While Signed Out

Assumption: You do not know your current Beanawhile password but do know the email associated with your account and have access to its mailbox. If you know your password, you can change it by following **4.1.1 Reset Password While Signed In**.

Assumption: You are signed out of Beanawhile. If you are not signed out, you can do so by following the **3.1.3 Sign Out** process.

Assumption: The email mailbox does not block or mark as spam password reset emails sent by Beanawhile. If it does, emails may not be receivable or may be in the spam folder.

You can change your password by following the steps below:

1. Click the “Forgot Password?” button.
2. The system shall prompt you to enter the email address associated with your Beanawhile account. Enter your email and click “Reset My Password”.
3. Access your mailbox and follow the instructions in the email you received from Beanawhile.
 - *Exception:* If the email does not resolve to a valid mailbox, no email shall be sent by the website.
 - *Exception:* If the email confirmation has not been interacted with within 10 minutes of delivery, its actions shall be void and you shall need to restart the process again.
4. Your password is now changed. You can follow the **3.1.2 Sign In** process using the new password that was specified.

4.1.3 Change Account Settings

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the

3.1.2 Sign in process.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

This feature enables users to update account details, such as their email address and permissions for friends.

1. Click on the “Settings” tab in the navigation bar.
2. Change your settings as follows:
 - To change the display name that your friends see on your user profile, ensure you are on the “Profile” tab and edit the text box labeled “Display Name” as shown in Figure 4.1.3.2.1.

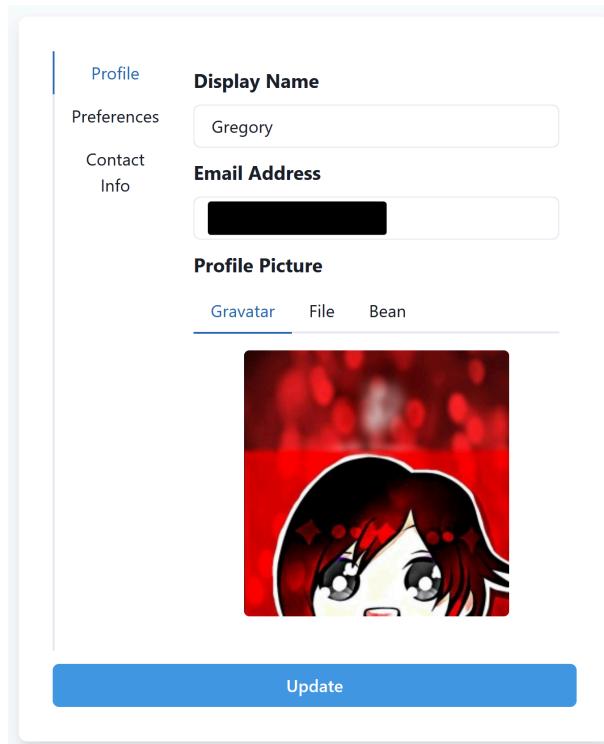


Figure 4.1.3.2.1: User “Profile” tab

- To change your email address that is used to sign in, ensure you are on the “Profile” tab and edit the text box labeled “Email Address”.

- *Exception:* If you input a malformed email address or an email address that is already associated with a Beanawhile account, the system shall display an error when you attempt to complete the next step and not make any changes.
- To change the profile picture shown to your friends, ensure you are on the “Profile” tab and click on a tab under the “Profile Picture” label. The different tabs are:
 - “Gravatar”: when selected, the system shall use the Gravatar profile picture associated with your Beanawhile account’s email address as your account profile picture.
 - “File”: when selected, the system shall prompt you to upload an image to be used as your account profile picture.
 - “Bean”: when selected, the system shall generate a random picture of one or more beans to be used as your account profile picture.
- To change the parameters that the system shall consider for deciding overlaps to display to you, ensure you are on the “Preferences” tab and select a strategy from the dropdown under the label “Proximity Algorithm”, as shown in Figure 4.1.3.2.2. The options are as follows:
 - “Smart”: when selected, the system shall decide on its own how you overlap.
 - “Same Region”: when selected, the system shall show overlaps when your friends are in the same geographical region as you. This could mean the same city, town, or country depending on the size of the region.
 - “Distance”: when selected, the system shall show overlaps when your friends are within a certain distance from you. When the setting is selected, the system shall display a slider that you can interact with to set the distance parameter.

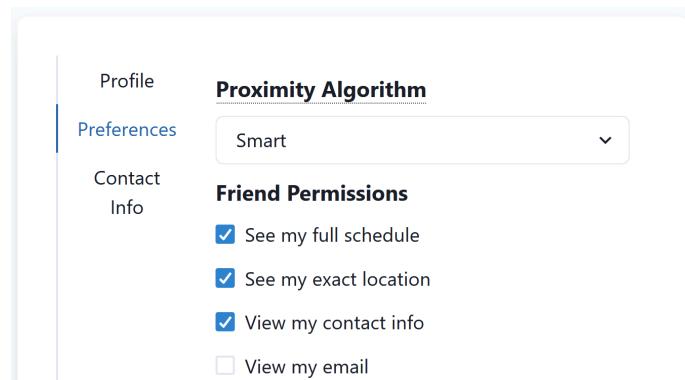


Figure 4.1.3.2.2: User “Preferences” tab

- To change what your friends can see when viewing your user profile, ensure you are on the “Preferences” tab. To grant friends a specific permission, check the box labeled with said permission. To deny friends a specific permission, uncheck the box instead. The following permissions can be granted or revoked:
 - “See my full schedule”: which allows your friends to see your entire travel schedule for any date range even if there are no overlaps on that range.
 - “See my exact location”: which allows your friends to see the exact location that you input for each travel plan. If this permission is not granted, the system shall show the country of the inputted location instead.
 - “View my contact info”: which allows your friends to see your social media handles if you have added any.
 - “View my email”, which allows your friends to see the email address associated with your Beanawhile account.
 - To add link contact information with your Beanawhile account, ensure you are on the “Contact Info” tab. The different pieces of contact information that can be inputted are listed below. All fields are optional.
 - You can link a Discord account by filling in the text box labeled “Discord” with your Discord username.
 - You can also link an Instagram account by filling in the text box labeled “Instagram” with your Instagram handle.
 - You can link a Snapchat account by filling in the text box labeled “Snapchat” with your Snapchat username.
3. Click on the “Update” button to save the changes you have made.
- *Alternative:* If you change the email address associated with your Beanawhile account, the system shall prompt you to verify the new email address following the process in step 4 of **3.1.1 Sign Up**.

4.2 Friend Details

4.2.1 View a User’s Profile

Assumption: You are signed in to an account on Beanawhile. If not, sign in using the **3.1.2 Sign in** process.

Assumption: The user whose profile you want to view is on your friends list. If that user is not on your friends list, you can add them following **3.2.1 Send Friend Request** or **3.2.2 Accept Friend Request**.

Exception: If you are not signed in, the system shall not permit you to perform the following actions and shall redirect you to the sign in page.

This section outlines how to access a friend's profile using your friend list. There are several other scenarios that include alternative methods for accessing a friend's profile in **3.4 Your Friends' Travel Plans**.

1. Click on the “Friends” tab in the navigation bar, as shown in Figure 4.2.1.1.

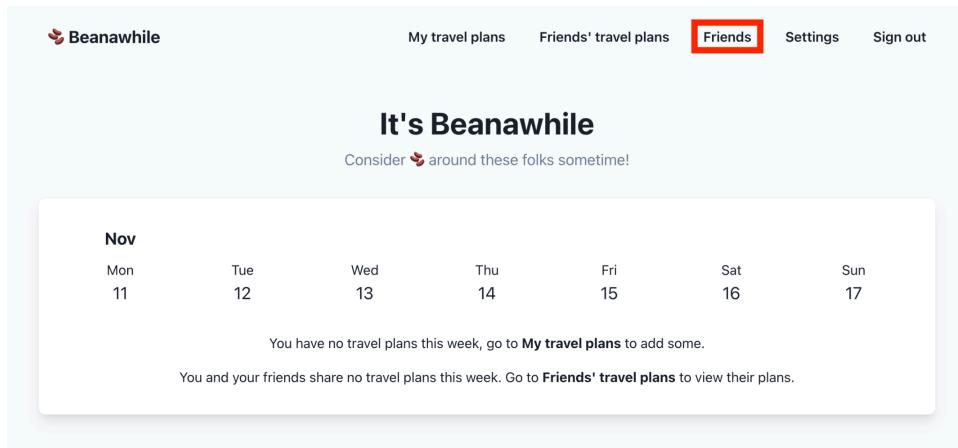


Figure 4.2.1.1: “Friends” tab in the navigation bar

2. The system shall display your friends under the “Friends” header as shown in Figure 4.2.1.2.

Friends		
NAME	EMAIL	REMOVE
Akira	[REDACTED]	✖
Tony Chen	[REDACTED]	✖
Testing	[REDACTED]	✖
Raymond Zhang	[REDACTED]	✖

Figure 4.2.1.2: Your friends list

3. From your list of friends, click the display name of the user whose profile you would like to view.

- *Exception:* If the user is not a friend, the system shall not display that user in your list of friends. The user can send you a friend request using the **3.2.1 Send Friend Request** process.
4. The system shall display that friend's profile, as shown in Figure 4.2.1.3. The information displayed depends on that friend's permission settings as described in **4.1.3 Change Account Settings**.

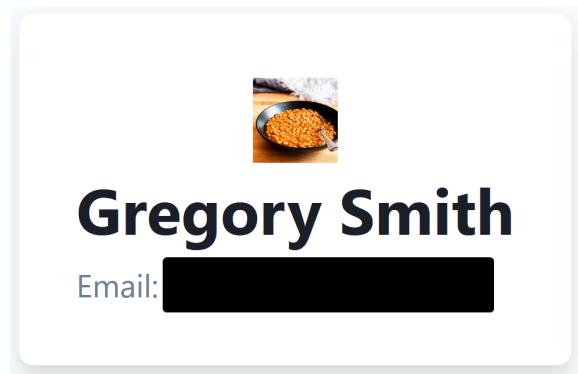


Figure 4.2.1.3: Example user profile page

5 Limitations

There exists some limitations of the Beanawhile web application, listed below:

- Beanawhile is accessible at beanawhile.evanzhang.ca, which can only be accessed through a device with a browser and stable internet connection. There is no support for offline use.
- To sign up for a new Beanawhile account, you must use a valid, unique email address that you have access to. Using the same email address for two accounts is not supported. Signing up with a phone number, social media account, government ID, or other methods is not supported.
- Beanawhile assumes that two users in the same location are in the same time zone. This may cause issues if users are near time zone boundaries or traveling through regions with complex time zone rules.
- You may input travel plans for at most one location per day. If you input travel plans for multiple locations on the same day, Beanawhile shall retain only the last entered location for that date.
- Your travel plans cannot have a start date that occurs after the end date. Time travel is not supported.
- You must be friends with another user to view their travel plans. There is no way to publicly share plans or selectively share plans with specific people outside your list of friends.
- This manual assumes that you can read and type in English. There is currently no support for other languages.

This concludes the user manual and requirements specification. The remainder of this document includes Deployment Information, Verification and Validation, and Design Documents.

Deployment Information

Beanawhile is hosted on a provisioned server and available publicly at beanawhile.evanzhang.ca. Additionally, Beanawhile can be hosted locally if desired. Note that the deployment has only been tested on Ubuntu 22.04.

In order to host a local instance of Beanawhile, the following dependencies are needed:

- Node.js (v16 is known to work)
- Postgres (v14 is known to work)
 - The PostGIS extension is also needed
- Memcached
- Python 3 (3.10 is known to work)

Follow these steps to bring the service online:

1. Clone the repository
2. In the project's root directory, execute `npm install`
3. In the project's root directory, execute `pip install -r requirements.txt`
4. In the `frontend` directory, execute `npm install`
5. In the project's root directory, execute `python manage.py migrate`
6. Populate credentials for the Postgres user that Beanawhile will use, a template `.env` file is provided in the repository
7. Replace all occurrences of `INSERT_GOOGLE_API_KEY_HERE` in the repository with your Google API key, there are three occurrences:
 - a. `core/settings.base.py`
 - b. `frontend/components/base/GoogleMapsView.tsx`
 - c. `frontend/templates/frontend/index.html`
8. In the project's root directory, execute `npm start`
9. Assuming no errors, Beanawhile is online at `http://127.0.0.1:8000/`

Verification and Validation

Verification

For verification of the backend, the algorithms were discussed as a team prior to implementation to ensure correctness. Tests were performed on edge cases by manually creating objects and additionally on real results from the production database. Postman was used to test API calls. Further, a manual code review process was upheld on all pull requests to ensure quality and correctness.

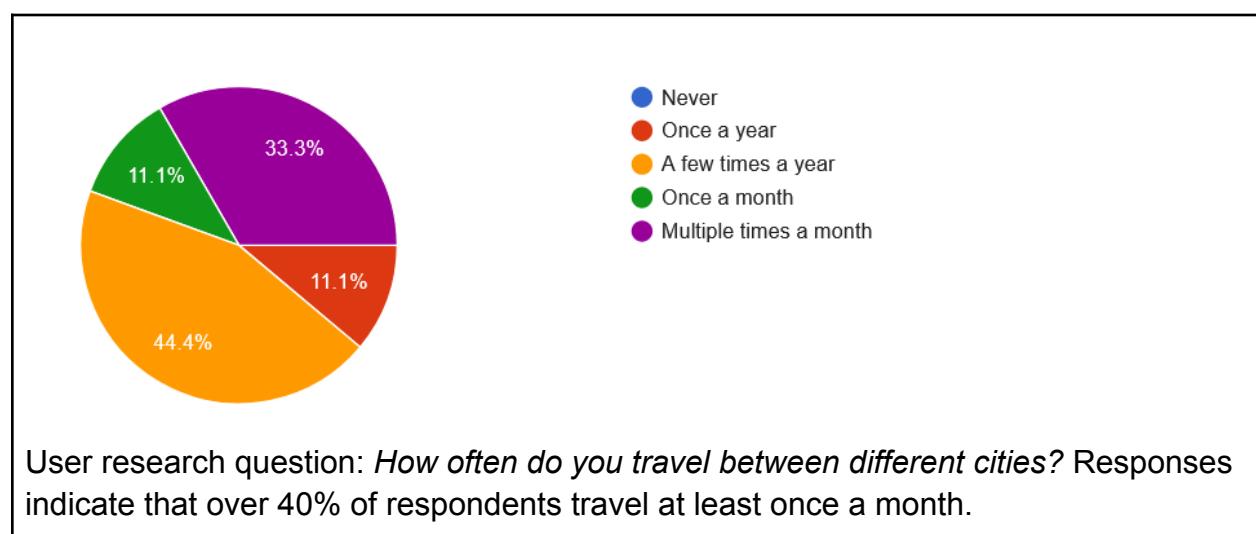
Verification of the user interface and its integration with the backend API was done manually, by interacting with the interface and ensuring our performed actions resulted in the desired results on the user interface and changes to the backend database if applicable.

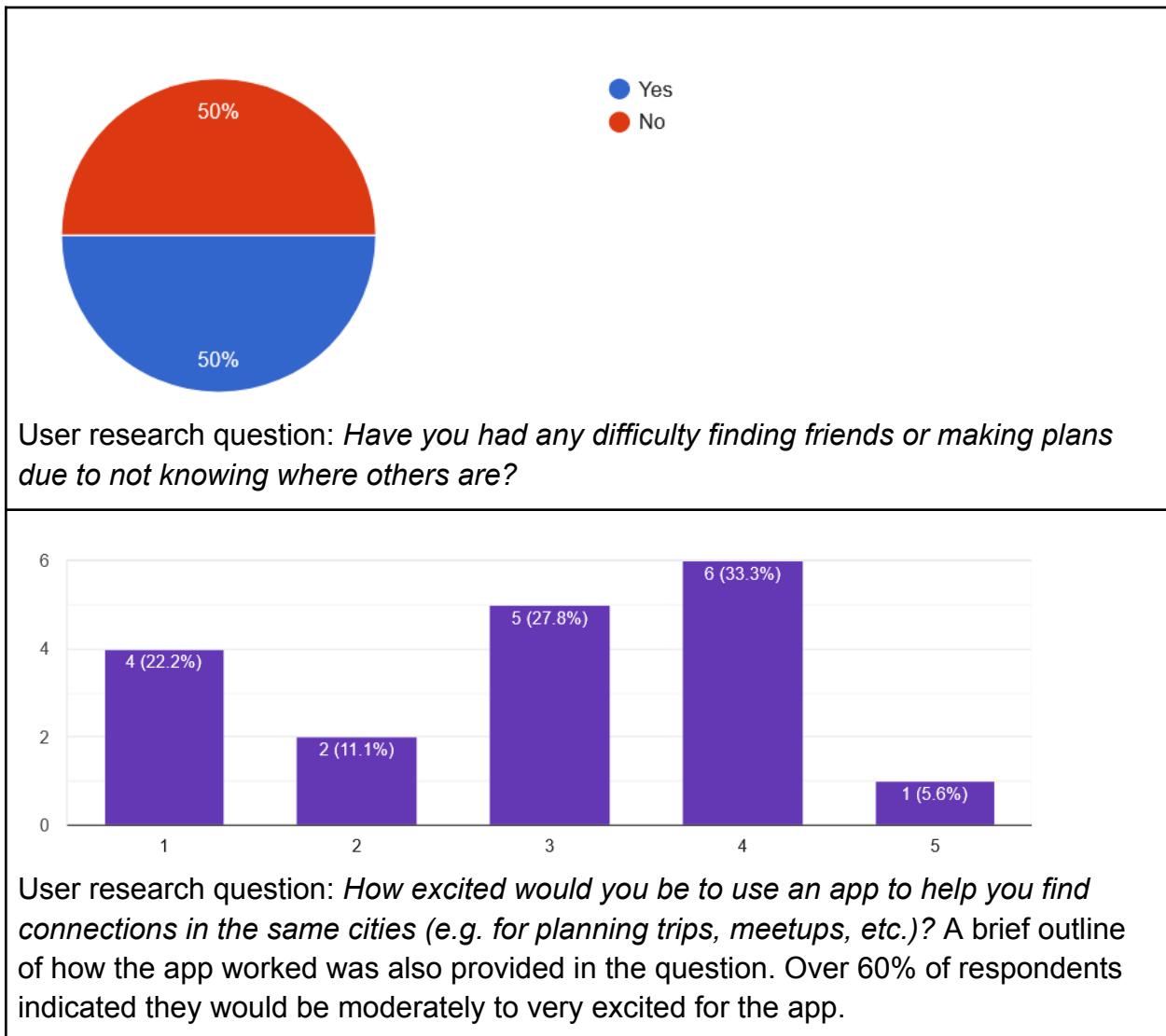
Further verification was done by distributing the product to real world users, mostly composed of other students. The students were asked to use the product, and report any behaviour that they perceived to be bugs.

Validation

User Research

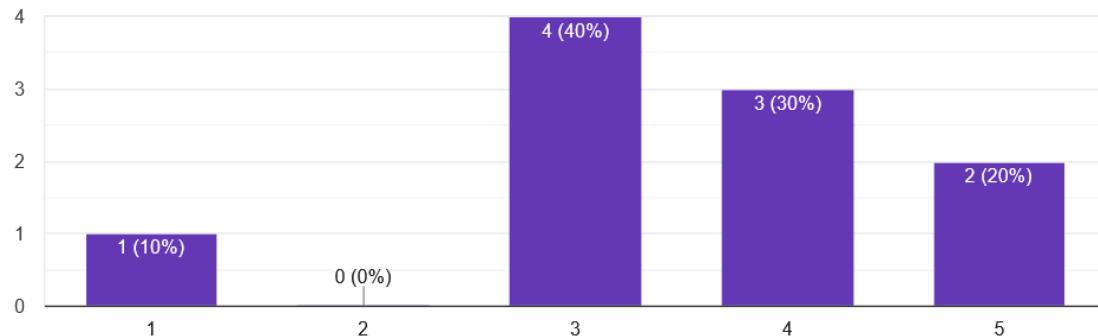
Prior to development of the product, user research was done to gauge interest in the functionality provided by Beanawhile.





User Testing

Usability testing of the UI was done by the team and additionally by a round of test users consisting of various students. Throughout development, various bugs and feedback were received through a google form and addressed iteratively.



User testing question: *Did you find Beanawhile useful?* 90% of respondents found Beanawhile moderately to extremely useful.

Some open ended pieces of feedback we got also validated the design of Beanawhile:

- *Very clean UI - everything is very straightforward and intuitive*
- *I like the bean puns and the simplicity of the interface.*
- *Timeline dragger that shows map of where people are over time.*

We also acted on constructive criticism. For example, one user suggested:

Could use a homepage displaying plans for coming weeks or month (differs from "MyTravel" page which is much more so for editing).

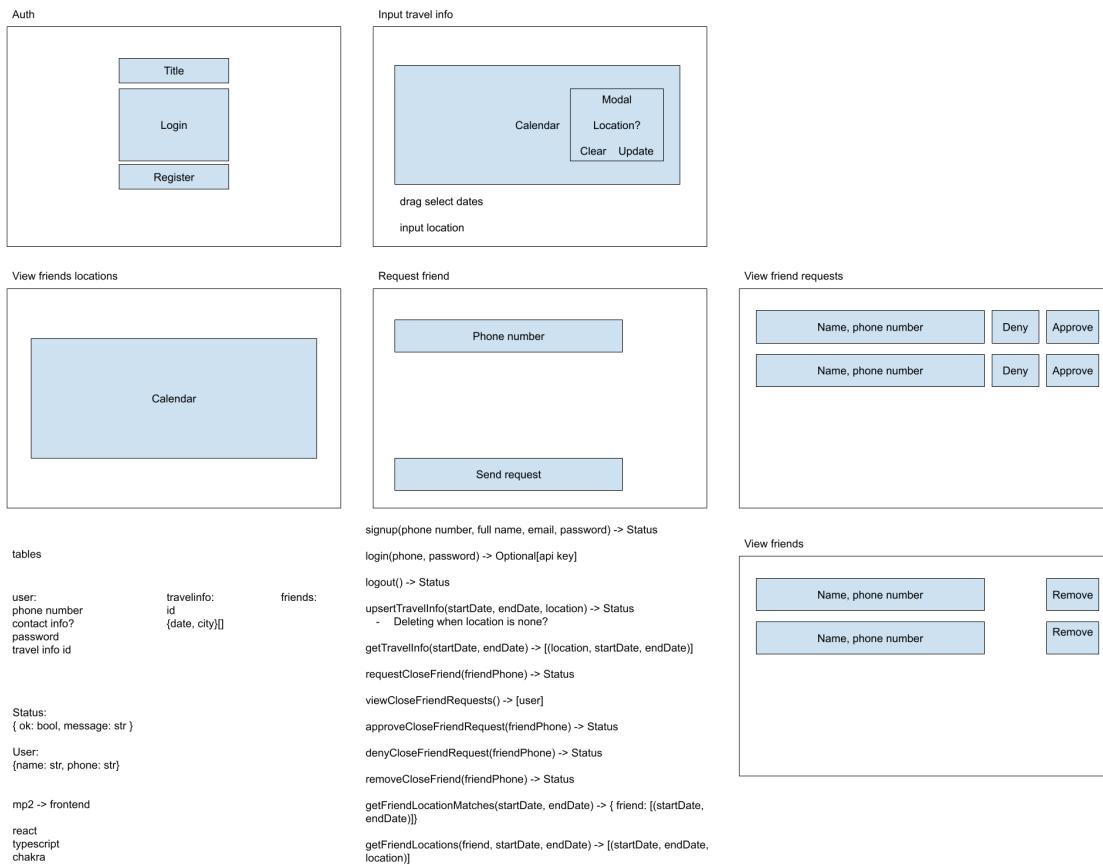
We have since implemented a homepage view into Beanawhile, which provides a concise summary of overlapping travel plans with friends.

Design Documents

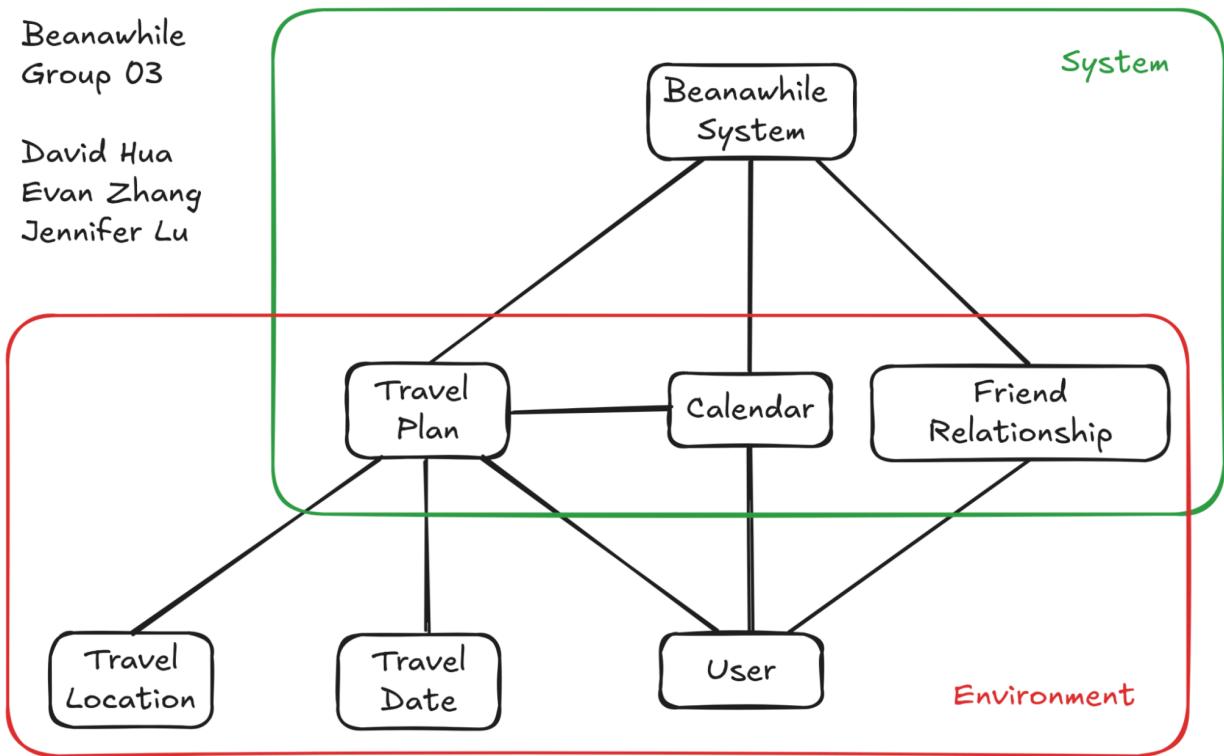
Design sketch 1: Rough initial sketch of the map view and homepage view



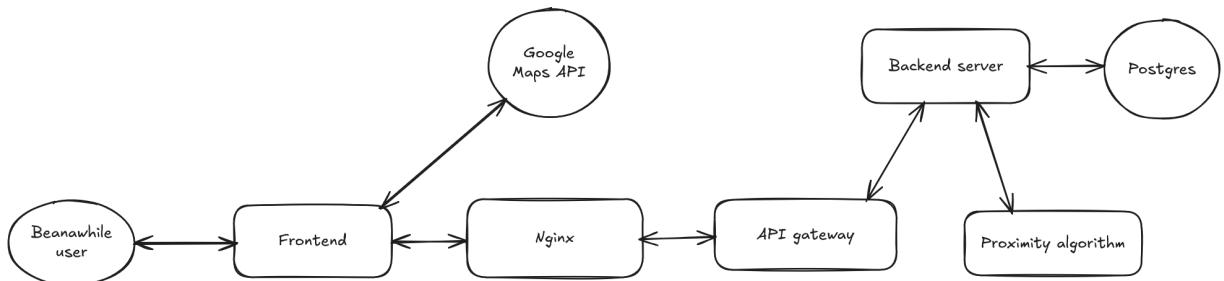
Design sketch 2: Page layout and backend model schema



Design sketch 3: Domain model with superimposed world diagram



Design sketch 4: System architecture diagram



Use Cases, Assumptions, and Exceptions

Use Cases

FOR user:

User:Beanawhile:register(name, email, password)
 User:Beanawhile:login(email, password)

```

User:Beanawhile:logout()
User:Beanawhile:changeSettings(newSettings)
User:Beanawhile:viewProfile(user)

User:FriendRelationship:sendFriendRequest(email)
User:FriendRelationship:acceptFriendRequest(email)
User:FriendRelationship:declineFriendRequest(email)
User:FriendRelationship:removeFriend(email)
User:FriendRelationship:viewPendingFriendRequests() ->
ListOfPendingRequests
User:FriendRelationship:viewFriends() -> ListOfFriends

User:Calendar:createOrOverrideTravelPlan(startDate, endDate, location)
User:Calendar:removeTravelPlan(startDate, endDate)
User:Calendar:viewSelfTravelPlan() -> CalendarOfTravelPlans
User:Calendar:viewFriendsTravelPlansAsTable(filter) ->
TableOfTravelPlans
User:Calendar:viewFriendsTravelPlansAsCalendar(filter) ->
CalendarOfTravelPlans
User:Calendar:viewFriendsTravelPlansAsMap(filter) -> MapOfTravelPlans

```

Assumptions

Case 1: your system does nothing because A is true of the real world

- A start date cannot be after an end date for a travel range
- Two people in the same place are in the same time zone

Case 2: if A is not true of the real world, your system acts as if A is true

- A user has an email address that they can access
- A user cannot report themselves as being in two different cities on one single day
- A user cannot report themselves as being friends with themselves
- A user has a device that is connected to the internet such that they would be able to access a website when they travel
- A user can read and type in English

Case 3: if A is not true of the real world, your system provides functionality that eliminates the need for A

- A user must input a valid and correct email
- A user must input a valid password
- A user must input a valid and correct location
- A user must input a valid and correct date range

Exceptions

User:Beanawhile:register(name, email, password)

- Register with an invalid email
- Register with an invalid password

User:Beanawhile:login(email, password)

- Login with an invalid email and password combination

User:Beanawhile:changeSettings(newSettings)

- Update with an invalid email
- Change to an invalid password

User:Beanawhile:viewProfile(user)

- View a user that is not a friend

User:FriendRelationship:sendFriendRequest(email)

- Send friend request to user who's already a friend
- Send friend request to oneself
- Send friend request to user who already has a pending friend request from the sender
- Send friend request to user who does not have an account

User:FriendRelationship:acceptFriendRequest(email)

- Accept a friend request from user who did not send a friend request

User:FriendRelationship:declineFriendRequest(email)

- Decline a friend request from user who did not send a friend request

User:FriendRelationship:removeFriend(email)

- Remove from friends list a user that is not their friend

User:Calendar:createOrOverrideTravelPlan(startDate, endDate, location)

- Input travel plan with start date strictly after end date
- Input travel plan with an invalid location

User:Calendar:removeTravelPlan(startDate, endDate)

- Remove travel plan with start date strictly after end date
- Remove travel plan that was not created

User:Calendar:viewFriendsTravelPlans*(filter)

- View a non-friend's travel plans

User:Beanawhile:logout()

User:FriendRelationship:*

User:Calendar:*

- View (anything) while not logged in

Variations

User:Calendar:removeTravelPlan(startDate, endDate)

- Remove all travel plans

User:FriendRelationship:removeFriend(email)

- Remove all friends

User:Calendar:viewFriendsTravelPlansAsTable(filter)

- Filter or sort friends travel plans, based on location, proximity, date range, etc.

User:Beanawhile:changeSettings(newSettings)

- Reset password while not logged in (for if the user forgets their password)