

## **SmartBite**

### System Purpose:

The purpose of our system is to provide an affordable and engaging platform such that users are motivated to pursue healthy eating and frequent physical activity. The system aims to promote balanced living, whilst incentivising fitness and diet routines that can be easily incorporated into the user's lifestyle. Additionally, the system integrates a leaderboard, community forums and social media mechanisms to support and unite all users.

### Summary of Problem Statements:

1. The majority of current fitness/diet applications do not possess gamification wherein users are presented with leaderboards and points correlating with their achievements.
2. There are a few fitness/diet applications which enrich the user experience by providing motivation and incentives.
3. Many fitness/diet applications lack community and behavioural support for users.

## Part 1: Software Architecture

### 1. External Data Sources:

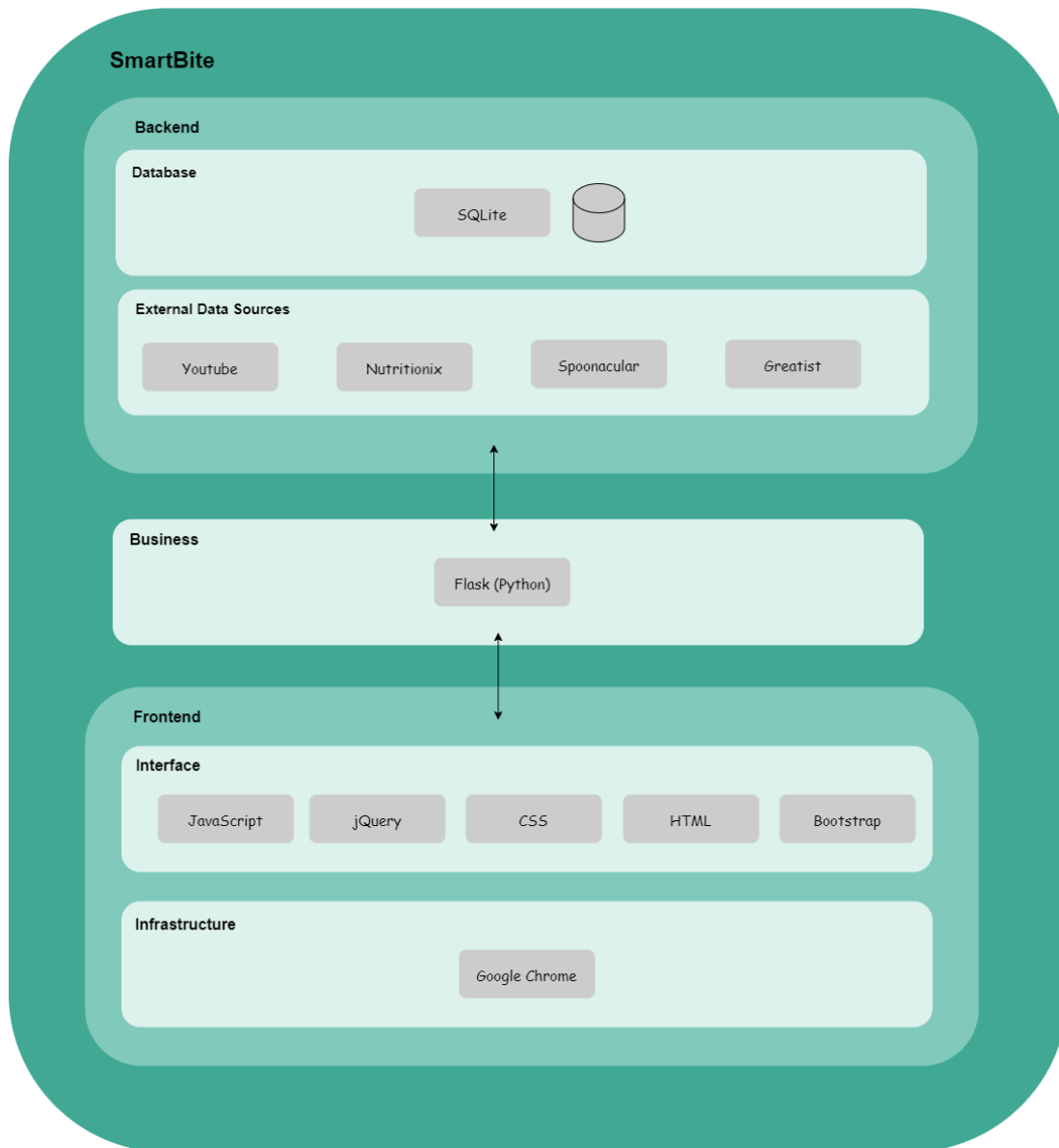
The external data sources that we will be using are APIs and a website for web scraping.

External Data Source	Explanation
<a href="https://www.nutritionix.com/database">https://www.nutritionix.com/database</a>	The Nutritionix API would be implemented in the 'Calorie Counter' page as part of the 'Food Search' function. This API allows access to the amount of calories as well as the nutritional panel for each type of food. It contains over 1 million food items including grocery, restaurant and common foods.
<a href="https://spoonacular.com/">https://spoonacular.com/</a>	The Spoonacular API would be implemented in the 'Recommended Recipes' page. It contains over 365,000 recipes which can be sorted based on dietary requirements. It also automatically calculates the amount of calories and the nutritional panel for each recipe. There are more than 330,000 recipes that can be accessed.
<a href="https://greatist.com/fitness/50-bodyweight-exercises-you-can-do-anywhere">https://greatist.com/fitness/50-bodyweight-exercises-you-can-do-anywhere</a>	This website contains 50 exercises including clear explanations for each. Web scraping can be used to extract the data and to output it to the 'Recommended Exercises' page of our application. The exercises are also split into different categories such as beginners, full body, legs etc so it would be useful for users to sort them. Additionally, the exercises are designed to be done anywhere therefore it would be suitable in terms of convenience for the users of our application.
<a href="https://developers.google.com/youtube/v3">https://developers.google.com/youtube/v3</a>	The Youtube API is to be utilised in the 'Recommended Recipes/Exercises' page of the application. For example, a video tutorial of a relevant exercise or recipe can be displayed alongside the text. This allows users to have clear instructions and a visual depiction to aid them in the process.

## 2. Software Components

Our webstack will consist of

- A backend that is implemented using Python
- A Flask web application framework
- A frontend interface that is implemented using Javascript, HTML and CSS
- A database using SQLite
- APIs and web scraping as mentioned in the above table
- Compatibility with the Web browser - Google Chrome



The above diagram depicts the Software Architecture for the SmartBite application. In a layered architecture, each layer has a particular responsibility it must complete in order for the application to run. These include the presentation, business and data access layers. These layers form an abstraction from the layer below and the work that needs to be done in order for a request to be handled correctly. Thus, the abstractions ensure there is loose coupling between the layers in order to prevent maintenance difficulties and allow for updates of various components to be done with minimal impacts on other components.

The presentation layer is the layer that the client interacts with (the frontend), which provides a user-friendly interface, while the data access layer (the backend) is where the server handles the data and responds to the user's actions appropriately. The business layer connects the backend and frontend components together using the Flask framework. This is where the majority of the application's processing takes place as it takes requests from the frontend, collects required data from the backend and uses logic to tackle the problem in order to provide the appropriate solution.

Within the presentation layer and the data access layer, there are further abstractions. The frontend consists of the Infrastructure and Interface layer. Through the usage of HTML, (which determines what a website has), CSS (which controls how each component looks like) and JavaScript (ensures interactivity of the website), a well-functioning web page can be created and displayed in the browser that the client is accessing it from. Similarly, the data access layer contains the external data sources and the database itself. This layer is closely connected to the business layer as this layer should know what data is needed to be retrieved for a particular logic.

Communication between layers is essential in order for a web application to function. We are utilising JSON to convey information between the presentation and business layers. Since JSON is easy to read and simple for web browsers to parse it is relatively efficient and fast.

### 3. Relating Choices to Components

<u>Component</u>	<u>Language/ Choice</u>	<u>Advantages</u>	<u>Disadvantages</u>
Backend	Python	<ul style="list-style-type: none"> <li>• All members of our group are familiar and fluent with Python.</li> <li>• simple language with high readability</li> <li>• relatively easier syntax compared to languages such as C and Java.</li> <li>• flexible data types.</li> <li>• is a platform independent language, so our backend can be compatible with many different operating systems.</li> <li>• An abundance of libraries and frameworks that support Python, that can be utilised to automate tasks in our application.</li> </ul>	<ul style="list-style-type: none"> <li>• In a run-time environment Python is slower compared to languages such as Java and C.</li> <li>• Although Python is flexible with its data types, there is a high amount of memory that is consumed due to this; hence it is not suitable for memory intensive tasks.</li> <li>• Since Python is dynamically typed there are design restrictions as a high use of design elements could prevent smooth operation of the application.</li> <li>• Python does not allow for executing more than one thread at a time due to its Global Interpreter Lock.</li> </ul>
Frontend	JavaScript	<ul style="list-style-type: none"> <li>• Since JavaScript is able to run immediately on a browser, it is extremely fast.</li> <li>• JavaScript can be inserted into any web page whereas languages such as PHP cannot be.</li> <li>• The demand on servers is reduced as JavaScript is run on the client's side of the application.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a possibility that different browsers can interpret javaScript differently. This makes it difficult to guarantee a uniform output.</li> <li>• The frontend code is visible to others.</li> <li>• If an error occurs in JavaScript, the webpage may stop rendering.</li> <li>• Debugging JavaScript is not as easy as other languages such as Python.</li> </ul>

		<ul style="list-style-type: none"> <li>• Javascript is extremely powerful in terms of enriching user interactivity. Javascript has the capability to include “events” such as clicking and can respond to them by communicating with the application’s backend. This consequently enables rich user interface components such as tabs, image sliders, menus and pop-ups to be implemented.</li> <li>• Webpages can also dynamically update themselves as a response to user activity without the page having to reload.</li> <li>• Additional functionality that cannot be achieved using HTML and CSS alone can be achieved with Javascript.</li> </ul>	<ul style="list-style-type: none"> <li>• It only includes single heritage so cannot support object oriented characteristics.</li> <li>• If JavaScript is disabled on the browser, the code for the whole application would not run.</li> </ul>
	HTML	<ul style="list-style-type: none"> <li>• HTML is simple and easy to use compared to languages such as PHP.</li> <li>• HTML can be easily integrated with languages such as JavaScript</li> <li>• HTML is beneficial in implementing the foundational structure and content of the page.</li> <li>• HTML is also simple and a platform independent language that is supported by all browsers.</li> </ul>	<ul style="list-style-type: none"> <li>• Using HTML alone can result in a lot of code even for very simple pages.</li> <li>• HTML is static in nature and implementing dynamic web pages are extremely difficult compared to PHP and JavaScript.</li> <li>• It is difficult to make aesthetic designs using HTML.</li> </ul>

	CSS	<ul style="list-style-type: none"> <li>• CSS allows for greater control of the aesthetic of the webpage as it has more formatting options compared to HTML.</li> <li>• Using CSS means that there would be less code per web page allowing for faster download times.</li> <li>• CSS would also save time since the code can be written once, and reused for different pages.</li> <li>• It also allows for the ease of maintenance as a simple change in the style would allow for all elements in the page to be updated automatically.</li> </ul>	<ul style="list-style-type: none"> <li>• There are different levels of CSS e.g CSS 1, 2, 3 which could cause confusion on which one to choose.</li> <li>• CSS is not compatible with all browsers, so extra testing would be needed to ensure compatibility.</li> </ul>
Framework	Flask	<ul style="list-style-type: none"> <li>• Lightweight WSGI (Web Server Gateway Interface).</li> <li>• Minimal dependencies on external libraries.</li> <li>• Written in Python.</li> <li>• Has the ability to scale up when needed.</li> <li>• Beginner friendly.</li> <li>• Flexible.</li> <li>• Developers can manipulate the application to do as they like, thus allowing technical experimentation.</li> </ul>	<ul style="list-style-type: none"> <li>• Only handles requests one at a time, so serving multiple requests can take unfeasible amounts of time.</li> <li>• Higher maintenance costs for more complex systems.</li> <li>• May need to install lots of modules to gain more tools to use. This could impose major security risks and expensive maintenance.</li> <li>• Not as suitable for business needs as python-based frameworks such as Django.</li> </ul>

		<ul style="list-style-type: none"> <li>• Members of the team have experience using flask.</li> <li>• More compatible with new technologies.</li> <li>• Great for small projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not have ready-made solutions that can be used that Django has.</li> <li>• Django has a wider community support to solve debugging problems and maintenance costs.</li> </ul>
Database	SQLite	<ul style="list-style-type: none"> <li>• Contains features that can also be found in higher-end databases.</li> <li>• Single standalone binary file, so it's easy to deploy and move it with the app.</li> <li>• No configuration is needed.</li> <li>• Self contained, so it is suitable for any environment.</li> <li>• works great for most low to medium traffic websites (which is most websites).</li> <li>• Uses standard SQL syntax with minor changes.</li> <li>• Easy to use.</li> </ul>	<ul style="list-style-type: none"> <li>• Not as suited to handle multiple concurrent users and cannot provide clustered and scale-out solutions.</li> <li>• Does not support certain relational database features.</li> <li>• Has relatively few data types, so enforcing this will have to be handled by the application.</li> <li>• Does not have an inbuilt authentication mechanism, so the database can be accessed by anyone, whereas databases such as MySQL comes with a lot of inbuilt security features, including authentication with a username, password, and SSH.</li> <li>• Not suited for large databases, as data grows, the memory needed also increases.</li> </ul>
Browser	Google Chrome	<ul style="list-style-type: none"> <li>• Available on both mobile devices and desktop and can be used on both Mac and PC.</li> </ul>	<ul style="list-style-type: none"> <li>• Doesn't contain features like built-in VPN, cryptocurrency locker, screenshot tool, these</li> </ul>



		<ul style="list-style-type: none"> <li>• Easy to use and customisable (through the utilisation of extensions).</li> <li>• Free to both download and usage.</li> <li>• Has pretty good marks on the JetStream 2 benchmark (speed test that checks a range of web technologies).</li> <li>• Is the top browser on the HTML5test website test (tests browser compatibility with web standards). The max score possible is 555 and chrome scores 528.</li> <li>• Good protection against malware.</li> </ul>	<p>have to be accessed using chrome extensions.</p> <ul style="list-style-type: none"> <li>• Features such as reading mode and share have to manually be enabled.</li> </ul>
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#### 4. Choice of platform

The choice of platform for the final system is any platform that is able to run a Python interpreter.

#### 5. Summary of key benefits/achievements

##### Backend:

For the backend, we have chosen to use Python. Everyone in the group is extremely familiar with Python and its simple nature allows for more focus on application development as opposed to learning the language or debugging. Additionally, Python is supported by an abundance of libraries and frameworks making it advantageous to use in our application. Although Python is slower than other languages such as C, our application is not performing extremely memory intensive tasks therefore we have deemed Python suitable for our backend.

### Frontend:

In terms of frontend, we have decided to use a combination of Javascript, HTML and CSS. The interaction capabilities of JavaScript alongside the robust foundations of HTML and the design elements of CSS prove beneficial in creating interactive yet aesthetic web pages. JavaScript and HTML can also be easily integrated together, whilst CSS would ease the uniformication and maintenance of the webpage.

### Framework:

We have chosen to utilise flask in our web framework as it provides a wide range of tools, libraries and mechanics for web application development that is beginner friendly. As it is a micro-framework, it does not have any dependencies to external libraries, thus ensuring long term stability and viability of the web application. It is also one of the most commonly used web frameworks for Python and our group members have experience using it. Though it may have some disadvantages when compared to other web frameworks such as Django, for the scale requirements of this project, it is more than adequate.

### Database:

SQLite is known to be easy to install due to minimal configurations and tuning options and the resultant database does not take too much space. It is used in a wide variety of platforms, and there is no restriction on what language the applications using it should be in. It is also less likely to cause corruption of the database as it allows for transactions and atomic behaviours. As the database required for our project does not have highly extensive requirements (in terms on needing all relational database features and requiring lots of space) and as listed above, SQLite is great for low to medium traffic websites such as our own, we have chosen to implement this in our project

### Browser:

Chrome is a well-known web browser that is used by many users, both on Mac and PC. It is free, easy to use and customisable. It also prevails as one of the top browsers after performing speed and compatibility tests and has good protection against malware. As the disadvantages listed above don't affect the user experience of our website as such, we believe our choice on the Chrome browser is the best option.

## Part 2: Initial Software Design

### a) Updated Features List

- Users can sign up
- Users can login
- Users can logout
- Users can reset password
- Main Menu Tab
- Water Progression Bottle
- Water Reminders
- Calorie Progression Apple
- Calorie Reminders
- Weight Progression Bar
- Meal Reminder
- Exercise Reminder
- Food Search Bar
- Recommended Exercises Tab
- Users can sort through exercises
- Recommended Recipes Tab
- Users can sort through recommended recipes
- Leaderboard
- Rewards
- Users can change their goal weight
- Users can update their current weight
- Users can update their height
- Users can change their age
- Users can view their BMI
- Users can view a food diary consisting of consumed food and planned food in a calendar format
- Users can select any future date in the calendar and plan a meal in advance
- Users can view posts in a community forum
- Users can create posts in the community forum
- Authors can edit their own posts in the community forum
- Authors can delete their own posts in the community forum
- Users can like posts in the community forum
- Users can dislike posts in the community forum
- Users can sort through posts in the community forum (popularity/recent)
- Users can find posts in the community forum through a search by title
- Users can find posts in the community forum through a search by author
- Users can follow other profiles to view the posts they have created
- Users can change their username
- Users can change their email

- Users can change their password
- Users can change their profile picture

b) User Stories and UML Sequence Diagrams

**Feature:** Users can sign up

**As a** user,

**So** that I can create an account to use the functionalities of this website,

**I want to** sign up

**Scenario:** User wants to create an account on the website

**Given** that I have clicked on the link to this website,

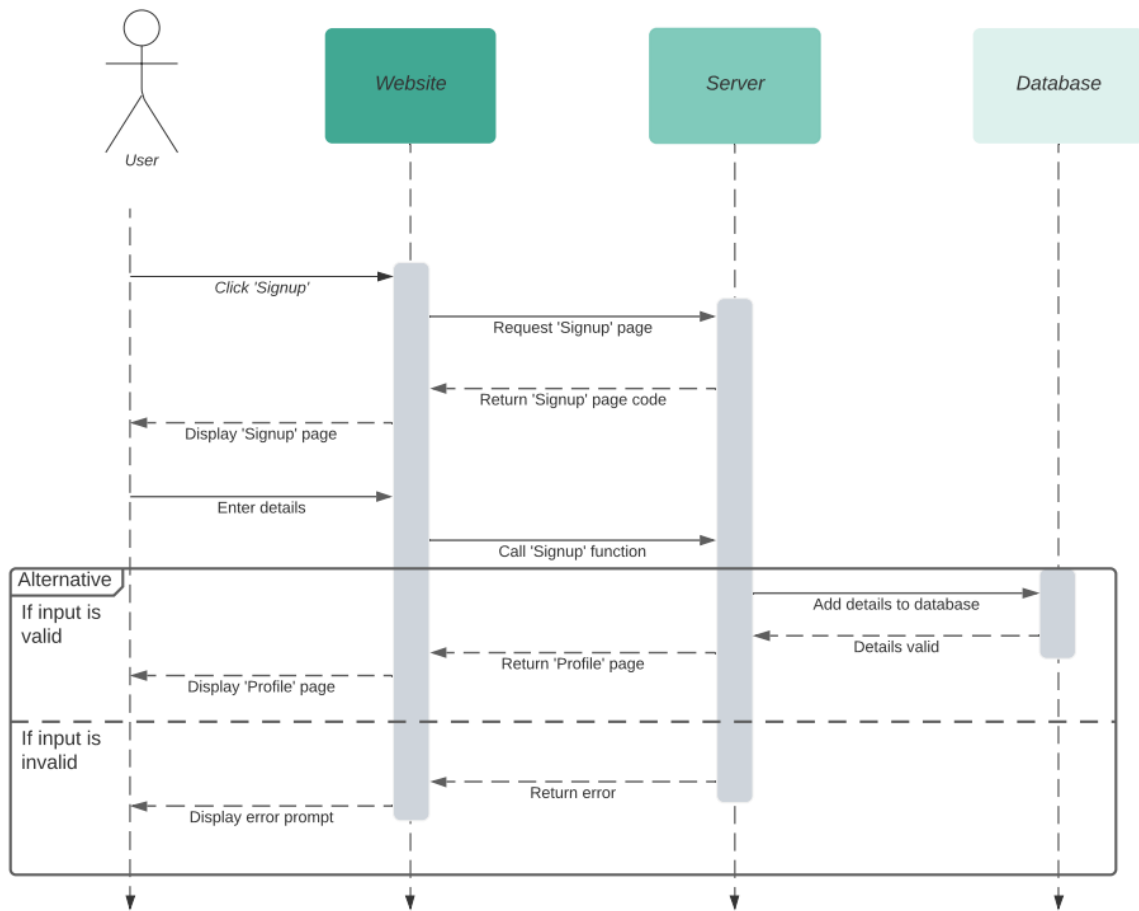
**Then** I will be directed to a page that will ask me to either login or sign up.

**When** I fill in my name, email and password, agree to the terms and conditions and click the 'Sign Up' button,

**Then** I will be redirected to a page that asks for my age, height, gender, current weight and goal weight.

**When** I have filled out all the fields and click done,

**Then** I should be redirected to my profile page with all the given details stored and I am logged in.



**Feature:** Users can login

**As** a user,

**So that** I can assess my profile in order to store information about my diet and get regular updates on how my progression is going,

**I want to** login into my personal profile

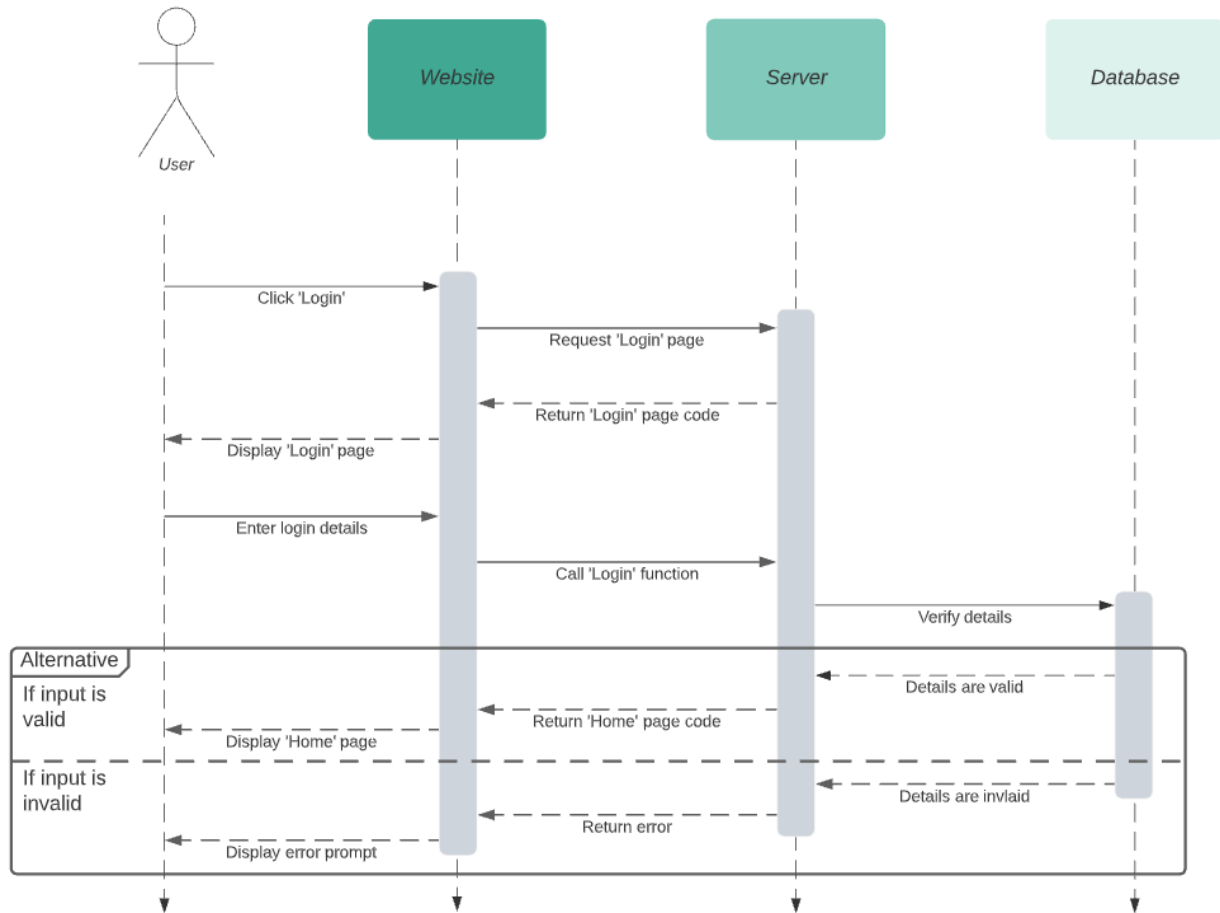
**Scenario:** user has an account and would like to login to access their website

**Given** that I have clicked on the link to this website,

**Then** I will be directed to a page that will ask me to enter my details to login.

**When** I type in my email and password correctly in the appropriate fields and click login,

**Then** I will be redirected to the home page



**Feature:** Users can logout

**As a** user,

**So that** I can ensure that I am able to maintain my privacy by preventing any individuals from gaining access to my details, progression and goals,

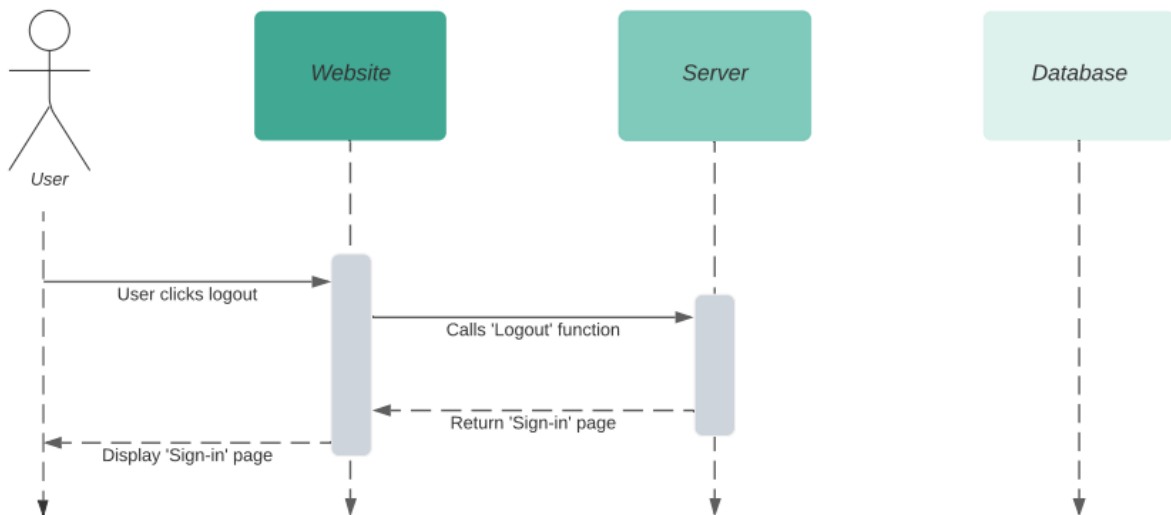
**I want** to be able to log out when I see fit.

**Scenario:** The user is logged in already and would like to leave the page completely by logging out

**Given** that I have logged on as a user on this website

**When** I click the logout button that is next to the setting button,

**Then** I should be redirected back to the page the page which requests me to either login or sign up



**Feature:** Users can reset password

**As a** user,

**So that** I can still access my profile when I do not remember the current password,

**I want** to reset my password.

**Scenario:** When a user is trying to login, but has forgotten the password

**Given** that I have clicked on the link to this website, and I have failed to login,

**When** I click the 'Forgot Password?' button,

**Then** I should be redirected to a new page that will ask for my personal email.

**When** I correctly input my email,

**And** I click the link sent to me from the website,

**Then** I enter the access code which was emailed to me.

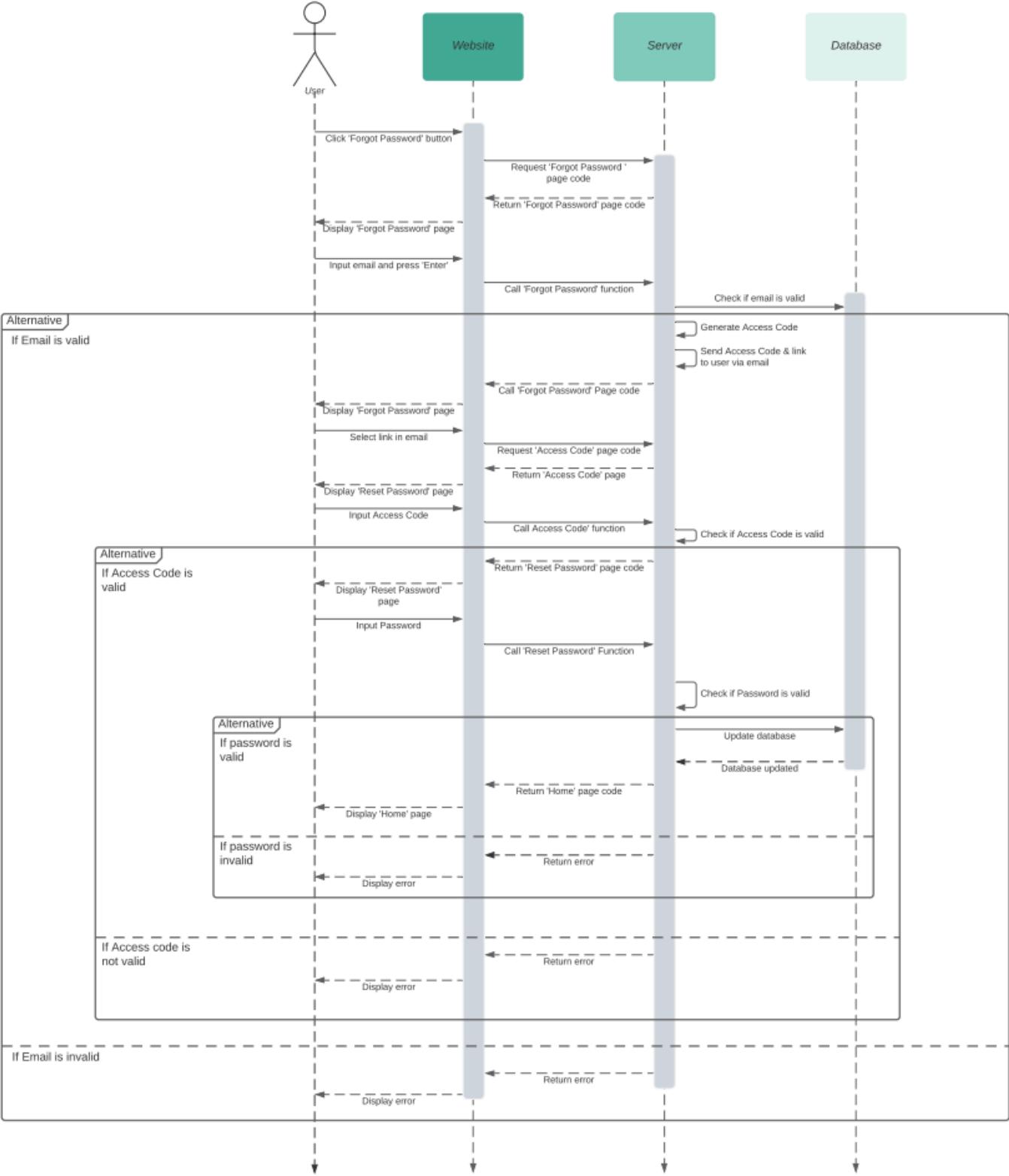
**When** I successfully enter the access code,

**Then** I will be redirected to a 'Reset Password' page,

**And** when I enter a new password,

**Then** my password will be reset





**Feature:** Main Menu Tab

**As a** user,

**So that** I am able to access any page that I am interested in from the current page that I am on,

**I want** a main menu tab on the side with links to all the other pages of the website.

**Scenario:** User wants to go from home page to another page

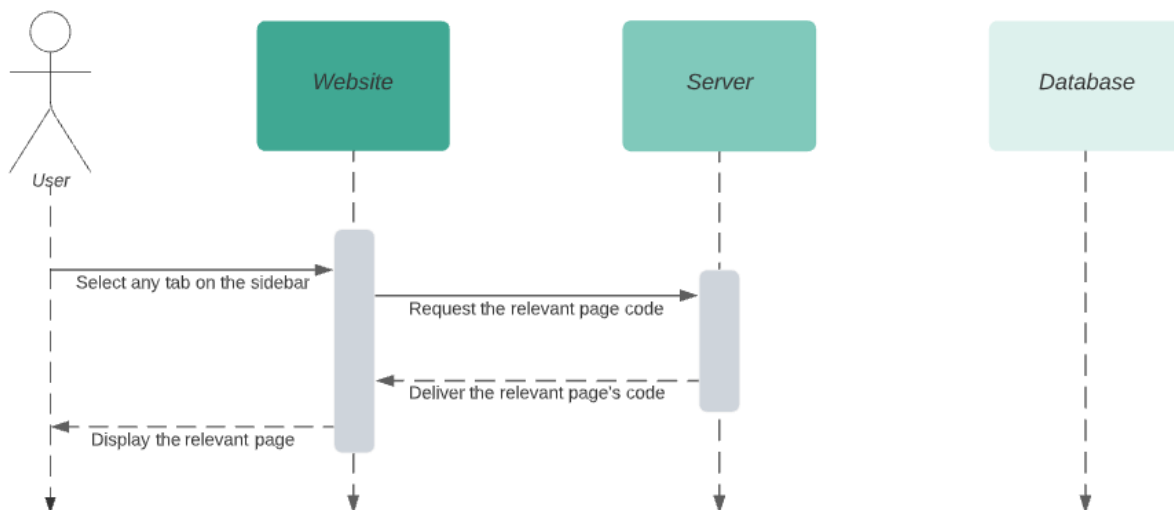
**Given** that I am already logged in,

**When** I would like to go to another page,

**Then** I should locate this on the main menu tab displayed on the left hand side.

**When** I click on the appropriate tab,

**Then** I should be redirected to that page.



**Feature:** Water Progression Bottle

**As a** user,

**So that** I can keep track of how much water I have drank in order to reach my set goal in a fun and interactive manner,

**I want** a bottle shape icon that displays my water progression.

**Scenario:** User would like to input the amount of water they had throughout the day

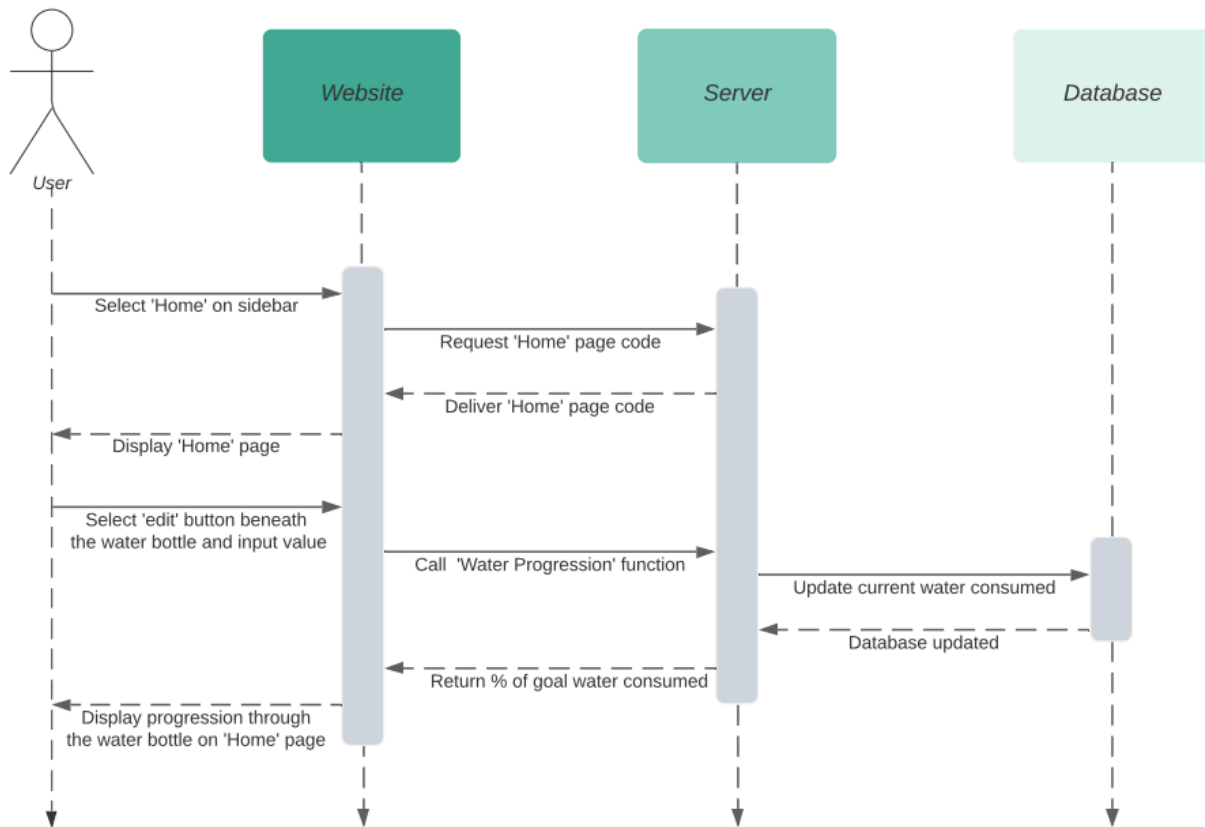
**Given** that I have already inputted my water goals/requirement per day,

**When** I input how much water I drank at a given time,

**Then** the water bottle should appropriately increase such that it looks like the bottle is being filled up.

**When** the bottle is completely filled,

**Then** a pop-up will be displayed, showing that I have reached my goal



## Feature: Water Reminders

**As a** user,

**So that** I get reminded to input water intake, and thus be remind me to drink water periodically throughout the day,

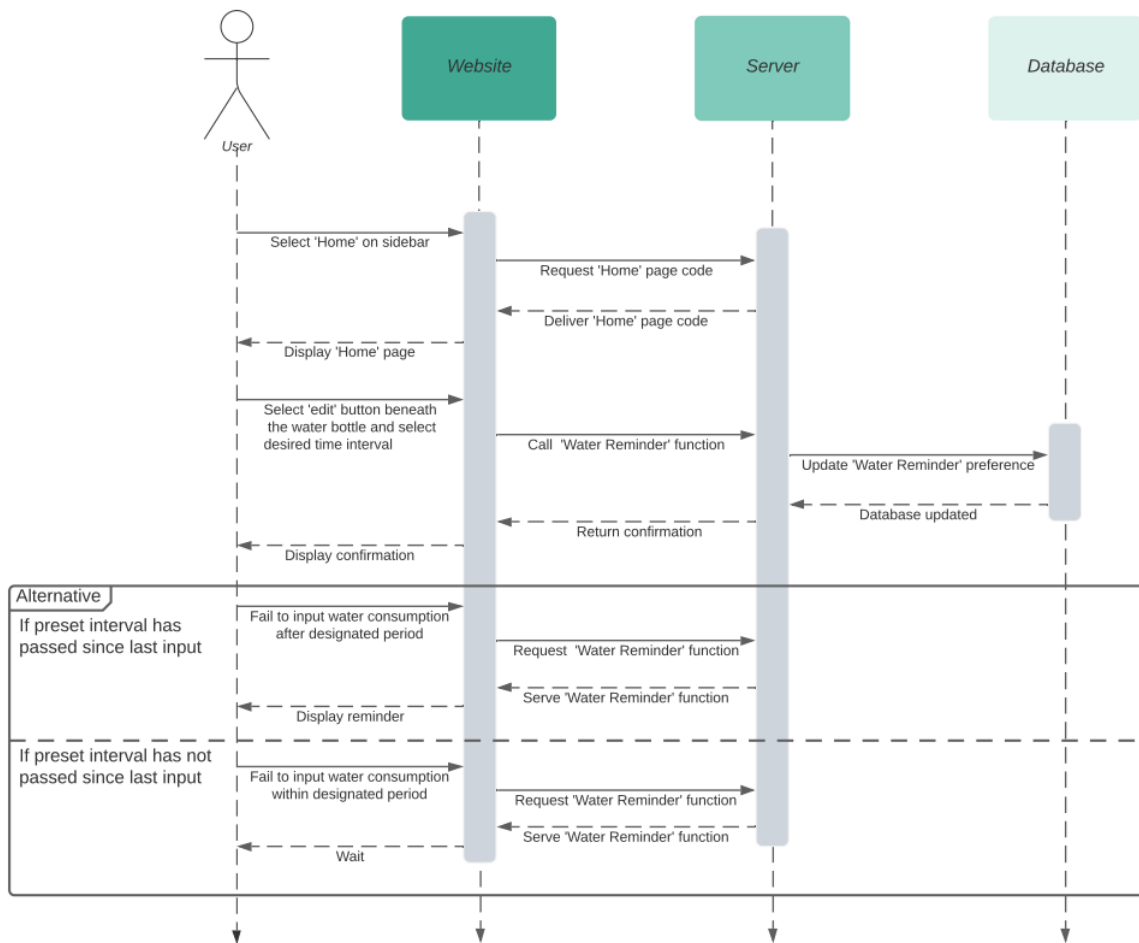
**I want** a pop-up notification on my desktop reminding me to do so.

**Scenario:** User is logged in, but hasnt inputted any water intake

**Given** that I have already inputted my water goals/requirement per day,

**When** a certain time that the user has selected has gone by without any input of water taken,

**Then** a small pop-up message should appear to remind the user to input their water intake through-out the day.



**Feature:** Calorie Progression Apple

**As a** user,

**So that** I can keep track of how much calories I have taken in order to reach my required goal in a fun and interactive manner,

**I want** a bar that displays my water progression.

**Scenario:** User would like to input the calories they have taken throughout the day

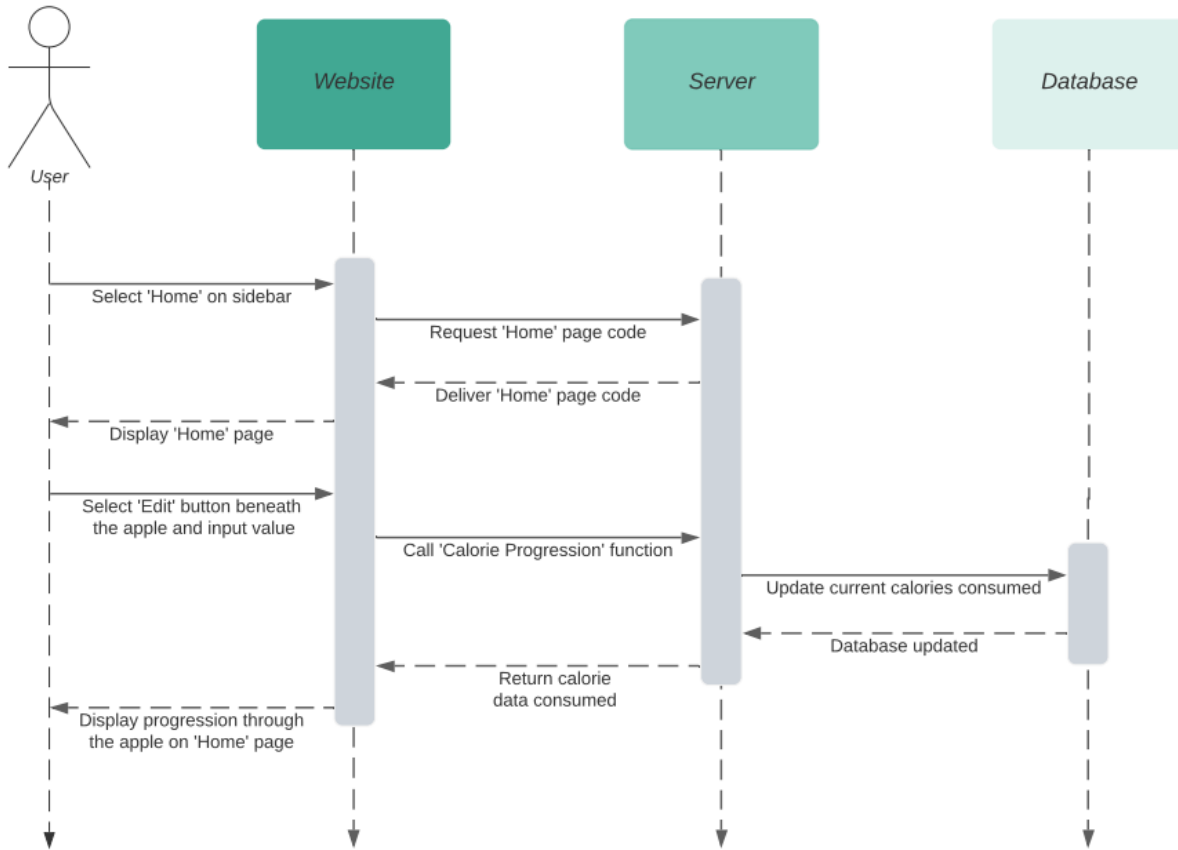
**Given** that I have already inputted my calorie goals/requirement per day,

**When** I input the food I have consumed at a given time,

**Then** the calorie progression bar should appropriately increase

**When** the bar is completely filled,

**Then** a pop-up will be displayed, showing that I have reached my goal



**Feature:** Calorie Reminders

**As a** user,

**So that** I get reminded to input calorie intake periodically throughout the day,

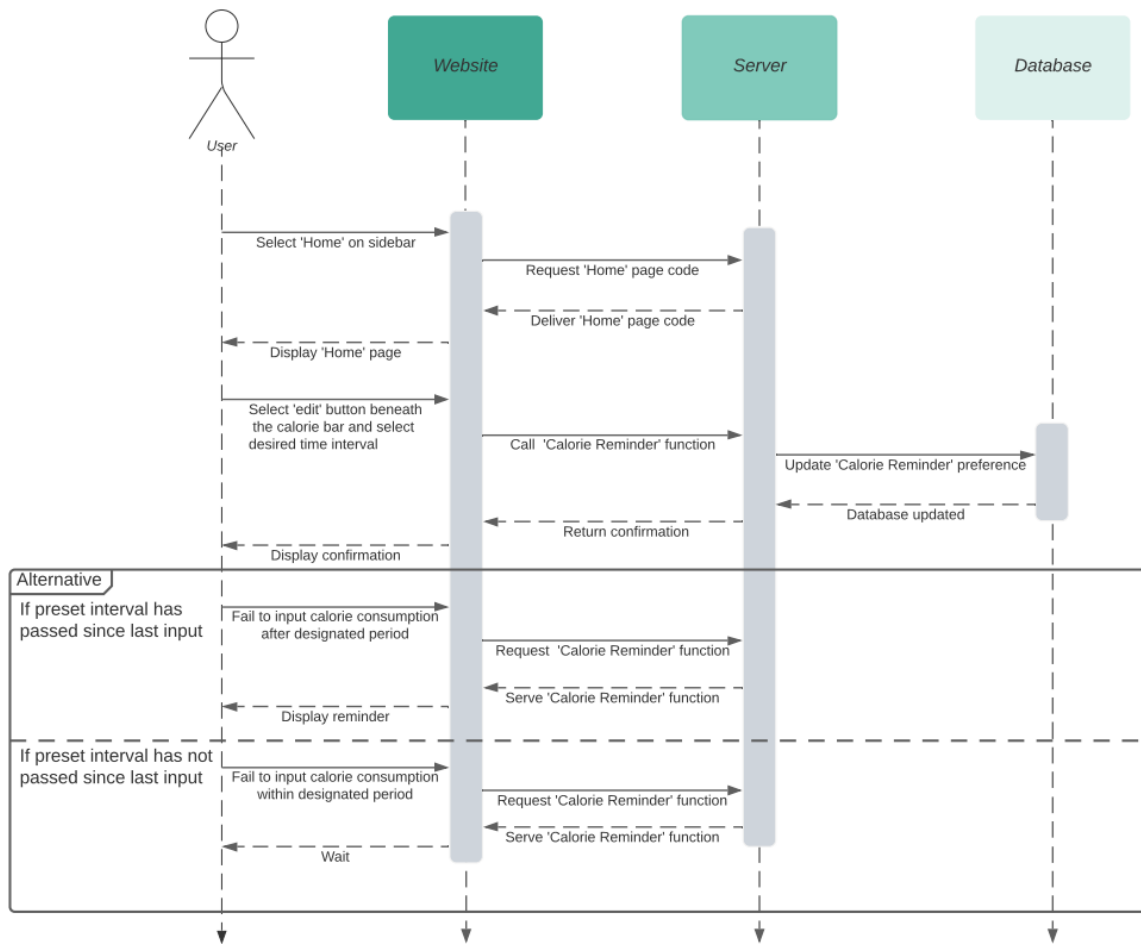
**I want** a pop-up notification on my desktop reminding me to do so.

**Scenario:** User is logged in, but hasnt inputted any calorie intake

**Given** that I have already inputted my calorie goals/requirement per day,

**When** a period of time (adjustable by the user) passes without any new inputs of calories consumed,

**Then** a small pop-up message should appear to remind the user to input their calorie intake through-out the day.



**Feature:** Weight Progression Bar

**As a** user,



**So that** I can keep track of my weight in a fun and interactive manner,

**I want** to be able to input my current weight.

**Scenario:** User would like to input their weight in order to see how far they are from their goal and work towards it

**Given** that I have already inputted my weight goals,

**When** I go click on the profile icon in the top right

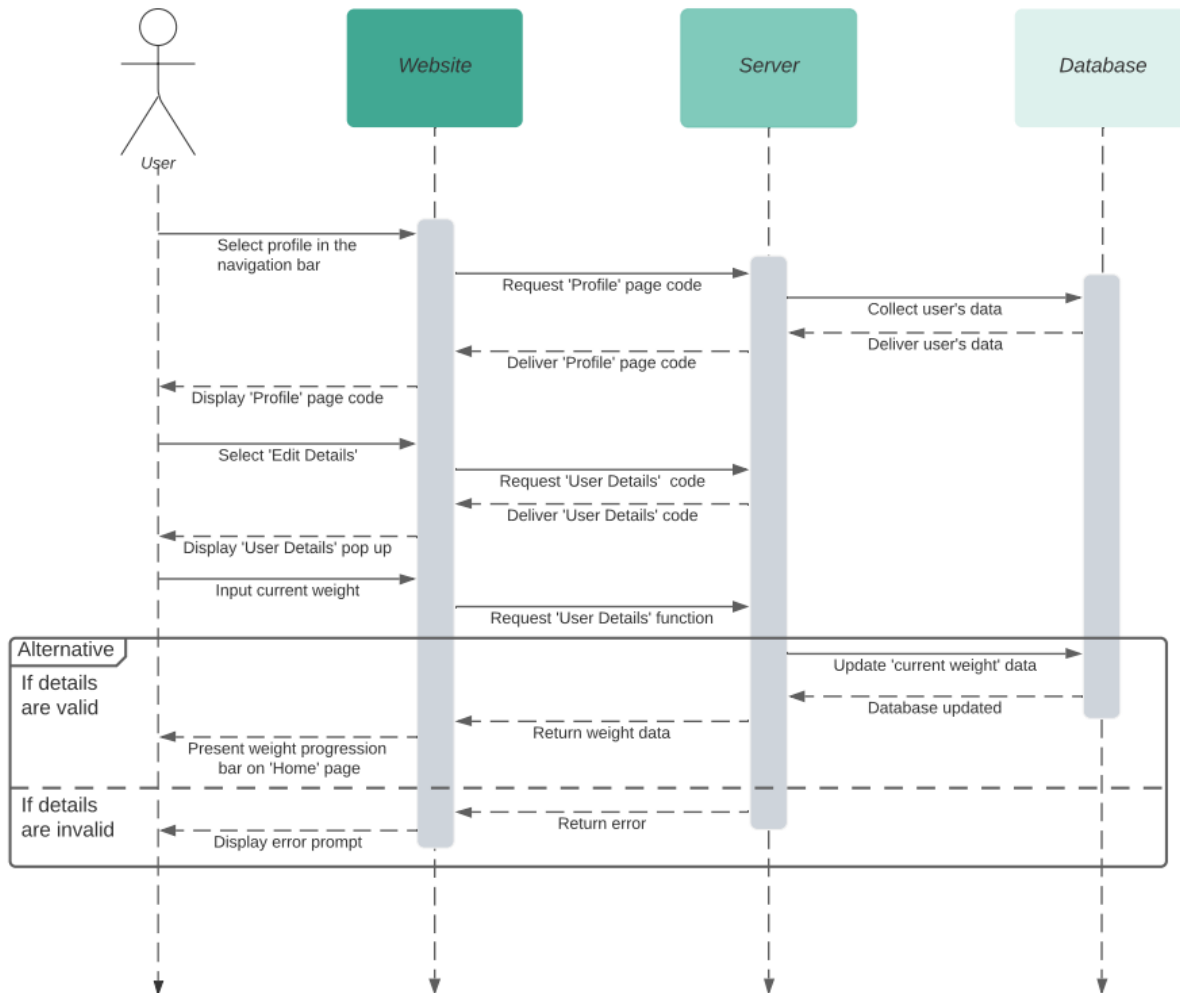
**Then** click the 'Edit Details' button,

**And** update my current weight,

**Then** the weight progression bar should appropriately increase

**When** the bar is completely filled,

**Then** the bar will show that the goal weight has been reached



**Feature:** Meal Reminder

**As a** user,

**So that** I can keep track of my planned meal in a fun and interactive manner,

**I want** to be able to plan my next meal.

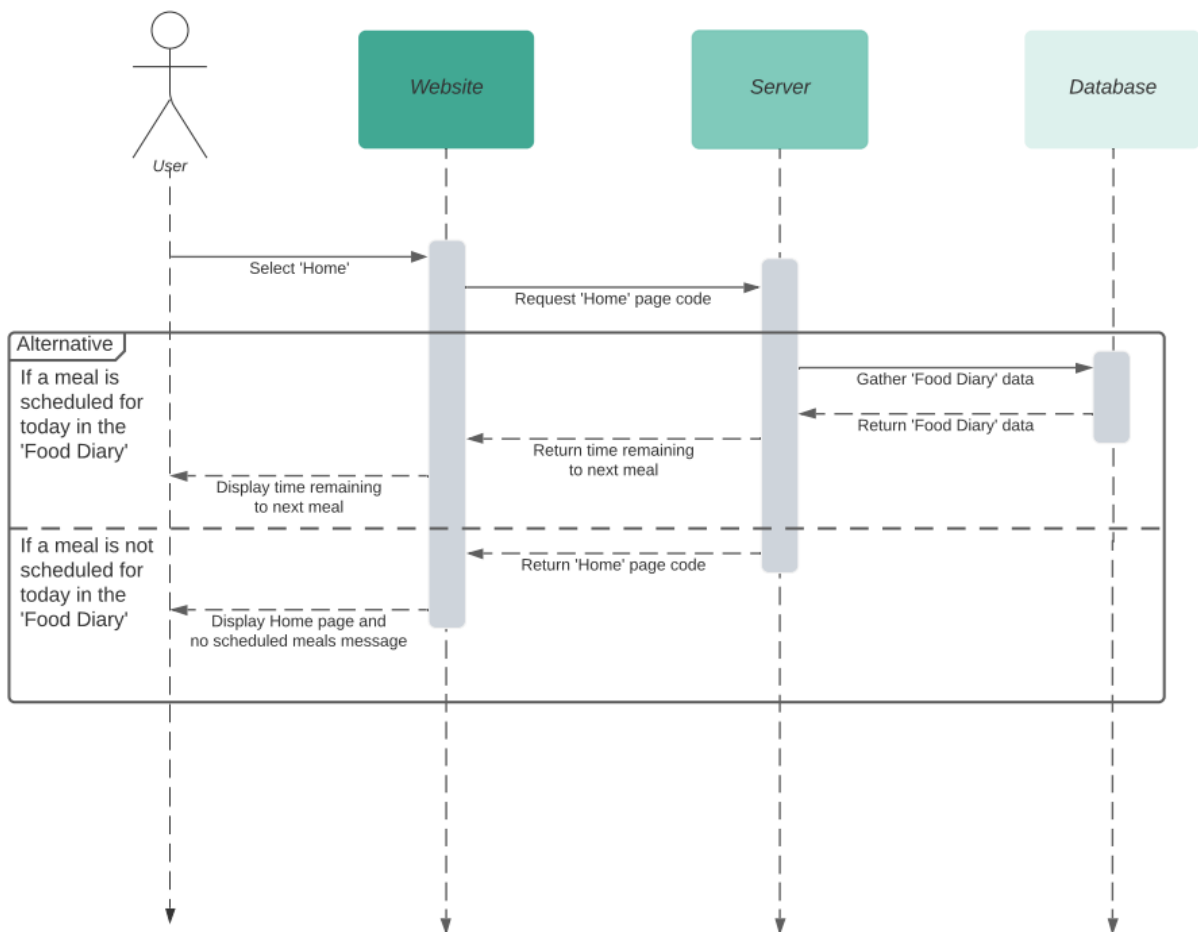
**Scenario:** User would like to plan out a meal and be reminded that they have a specific meal to eat, in order to achieve their weight goal or a healthy diet

**Given** that I have already planned my next meal,

**Then** at the scheduled time of that meal, a pop-up will be displayed, showing that I have a meal planned for that time

**When** I want to complete my task of eating a planned meal,

**Then** I click on the on 'Complete Meal' button in the bottom right of the home page, which will complete the task and show up your next planned meal.



**Feature:** Exercise Reminder

**As a** user,

**So that** I can keep track of my planned exercise in a fun and interactive manner,

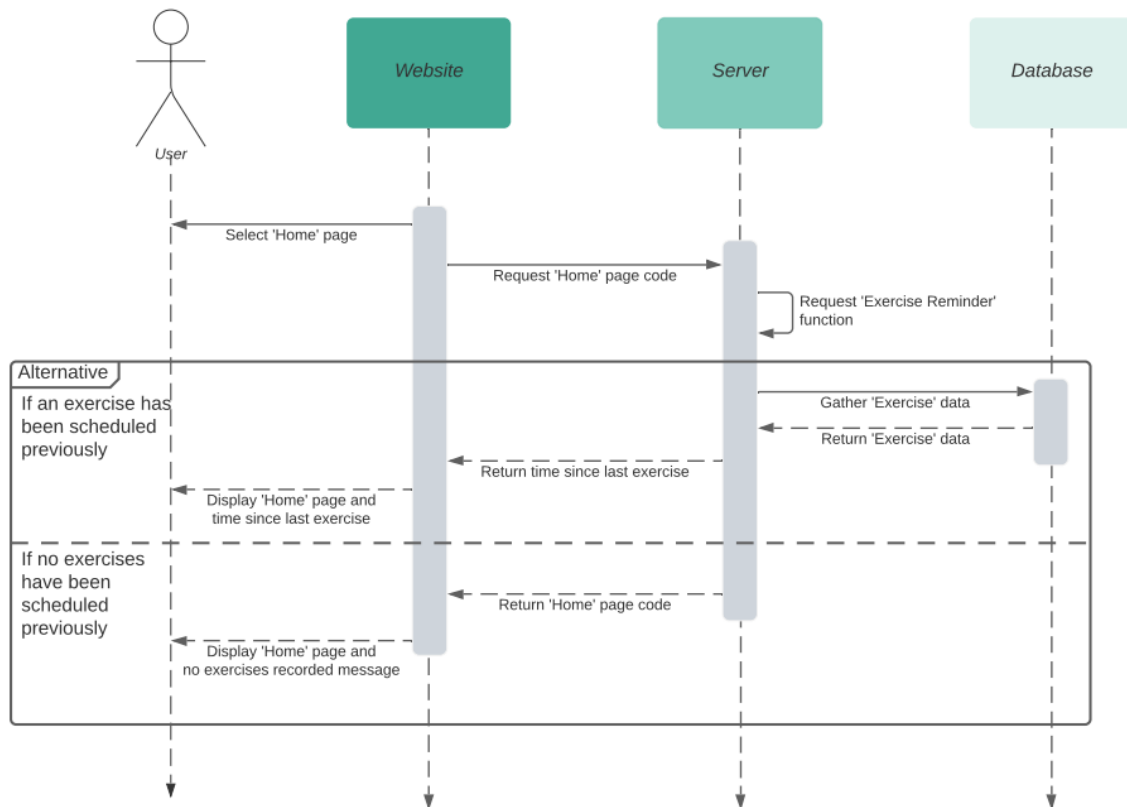
**I want** to be able to plan my next exercise.

**Scenario:** User would like plan out exercise routines and be reminded when they need to complete the exercise, in order to achieve their weight goal or a healthy lifestyle

**Given** that I have already completed an exercise,

**When** I click on the 'Home' tab on the navigation bar,

**Then** I will be able to see how much time has passed since my last exercise



**Feature:** Food Search Bar

**As a** user,

**So that** I am able to get more details and a nutritional breakdown of different types of foods,

**I want** a Food Search Bar.

**Scenario:** User would like to look at the different types of food and learn more about it

**Given** that I am already logged in,

**When** I click on the calorie counter tab,

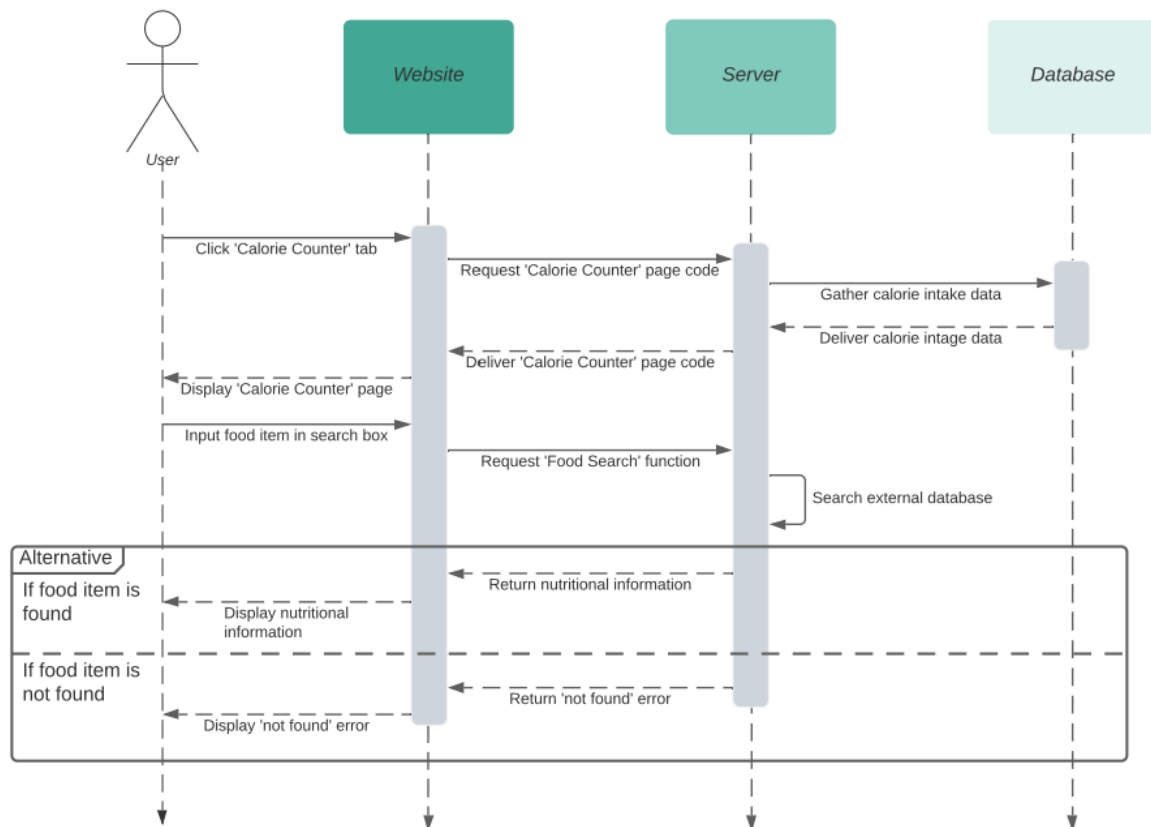
**Then** I will be redirected to the 'Calorie Counter' page.

**When** I click on the search bar at the top of the page and search for a particular type of food,

**Then** I will be given a nutritional breakdown on that specific type of food.

**When** I click the 'Add To Food Diary' button,

**Then** this will be noted in my food diary, and my calorie intake will increase accordingly.



**Feature:** Recommended Exercises Tab

**As a** user,

**So that** I am able to get access to different types of exercises available and can easily update my daily list of calories burned,

**I want** a recommended exercise tab that will allow me to browse through and see what kinds of exercise I can do.

**Scenario:** User would like to look at the different exercises available and update their caloric progression accordingly

**Given** that I am already logged in,

**When** I click on the “Recommended Exercise and Recipes” tab on the side bar,

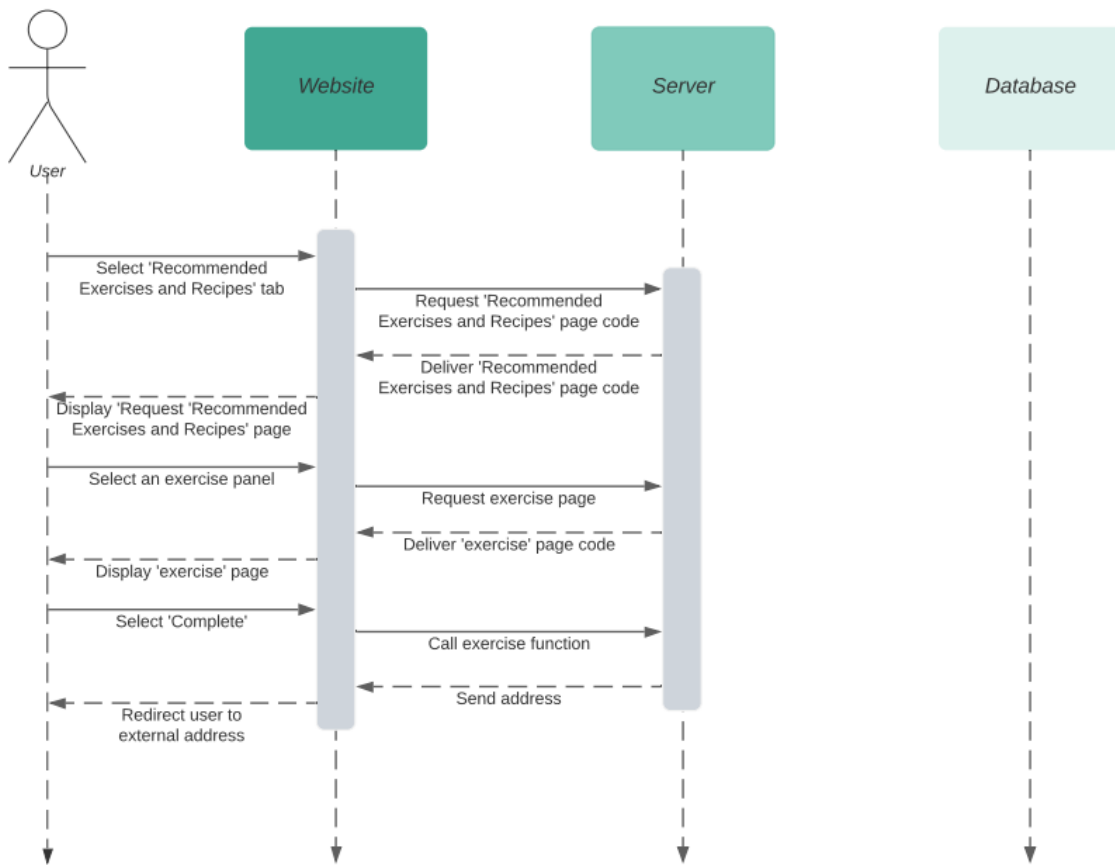
**Then** I would be redirected to this page with a list of exercises according to the type of exercise it is.

**When** I scroll through and click on a particular exercise,

**Then** I will be given a breakdown on the type of exercise it is, how much calories I will burn and how to properly do it.

**When** I click the “Complete” button,

**Then** this will direct me to a Youtube Video that shows how to do the particular exercise



**Feature:** Users can sort through exercises

**As a** user,

**So that** I am able to find exercises relevant to me,

**I want** to filter through the different types of exercises available.

**Scenario:** Users would like to find exercise relevant to their weight management journey.



**Given** that I am already logged in,

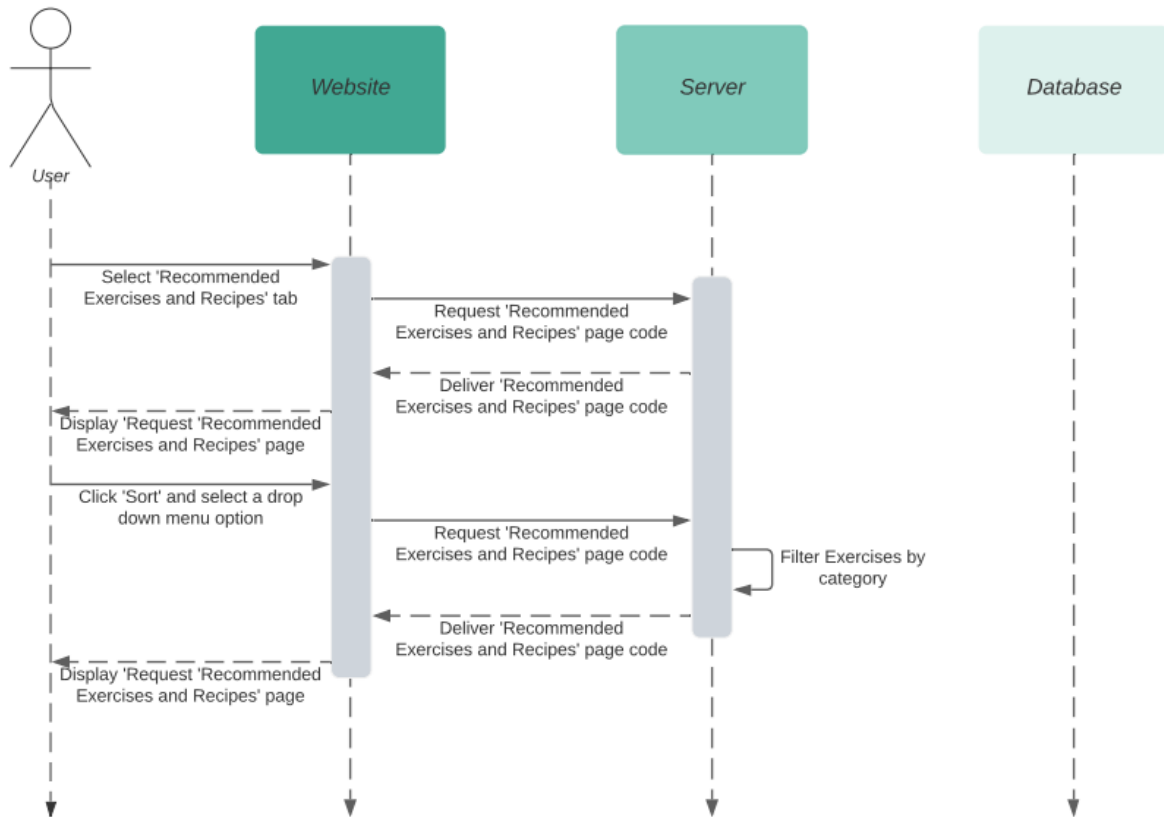
**When** I click on the “Recommended Exercise and Recipes” tab on the side bar,

**Then** I would be redirected to a new page with a list of exercises according to the type of exercise it is.

**When** I click on the ‘Sort’ button, a drop down menu will appear showing different categories of exercises

**And** If I select a category

**Then** the page will offer only exercises of that category



**Feature:** Recommended Recipes Tab

**As a** user,

**So that** I am able to get access to a variety of healthy recipes,

**I want** an recommended recipes tab that will allow me to browse through options available

**Scenario:** User would like to look at different recipes available and follow it

**Given** that I am already logged in,

**When** I click on the “Recommended Exercise and Recipes” tab on the side bar,

**Then** I would be redirected to this page

**When** I click the ‘Recipes’ tab at the top of the page

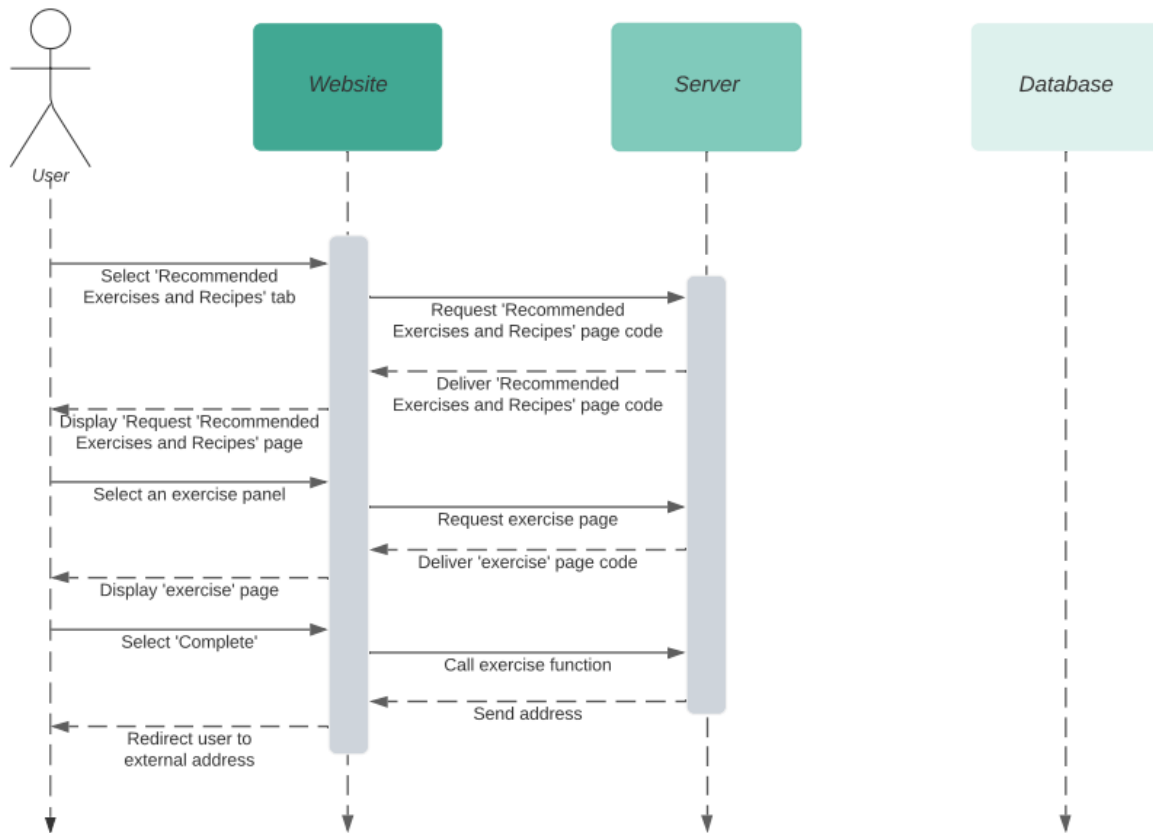
**Then** I would be redirected to recommended recipe page

**When** I scroll through and click on a particular recipe,

**Then** I will be given a breakdown on ingredients, steps and time it takes to make it

**When** I decide what to make and click the “Add to Food Diary” button,

**Then** it will take me to the food-diary page and be ready for me to choose a date & time for the meal.



**Feature:** Users can sort through recipes

**As a** user,

**So that** I am able to get access to recipes that are relevant to me,

**I want** to be able to sort through the list of available recipes

**Scenario:** User would like to look at different recipes available and follow it

**Given** that I am already logged in,

**When** I click on the “Recommended Exercise and Recipes” tab on the side bar,

**Then** I would be redirected to this page

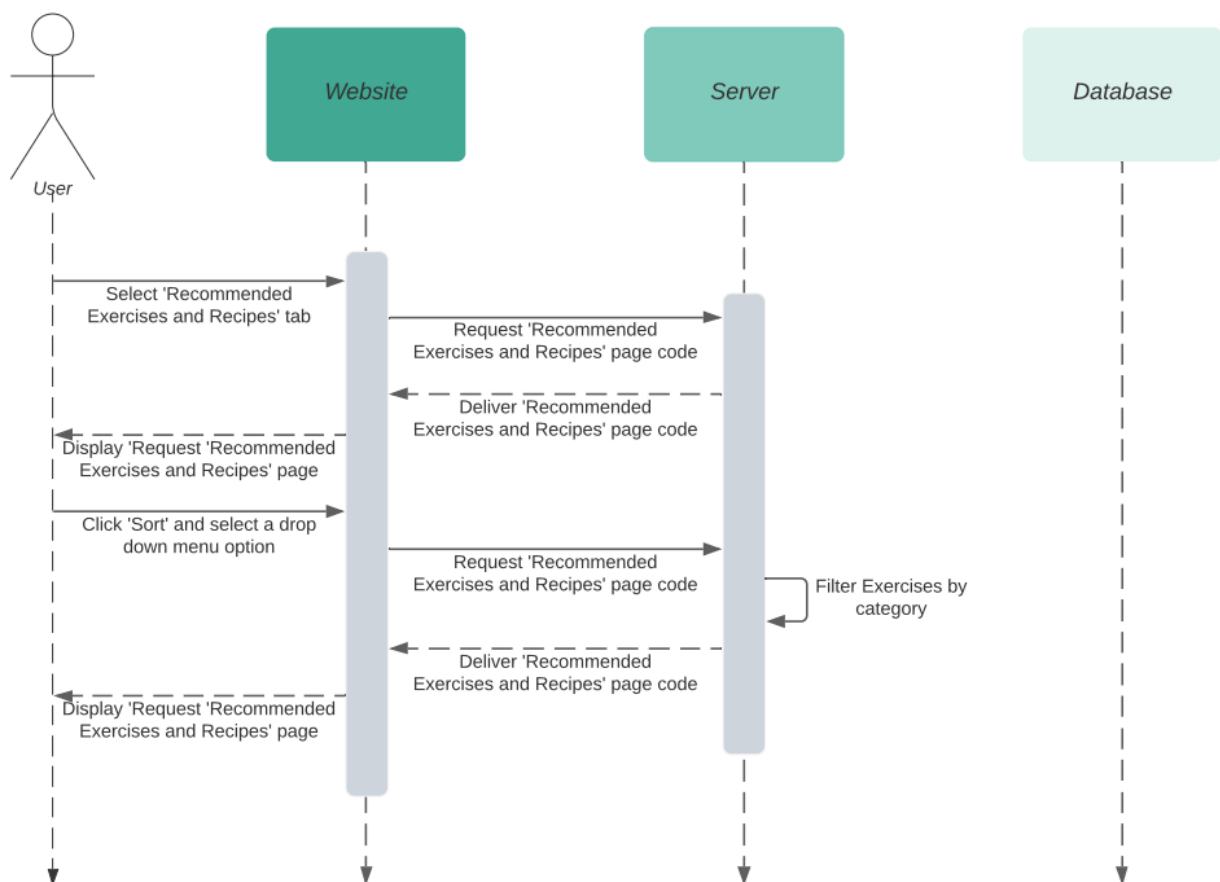
**When** I click the ‘Recipes’ tab at the top of the page

**Then** I would be redirected to recommended recipe page

**When** I click sort

**And** select an option in the drop down menu,

**Then** my feed of recommended recipes will be filtered to those relevant to me



**Feature:** Leaderboard

**As a** user,

**So that** I am motivated to continually input daily intake and weight progression,

**I want** a gamified leader board that shows how well I am performing in respect to the other users of the website

**Scenario:** user would like to browse through the leaderboard to see how the users are doing

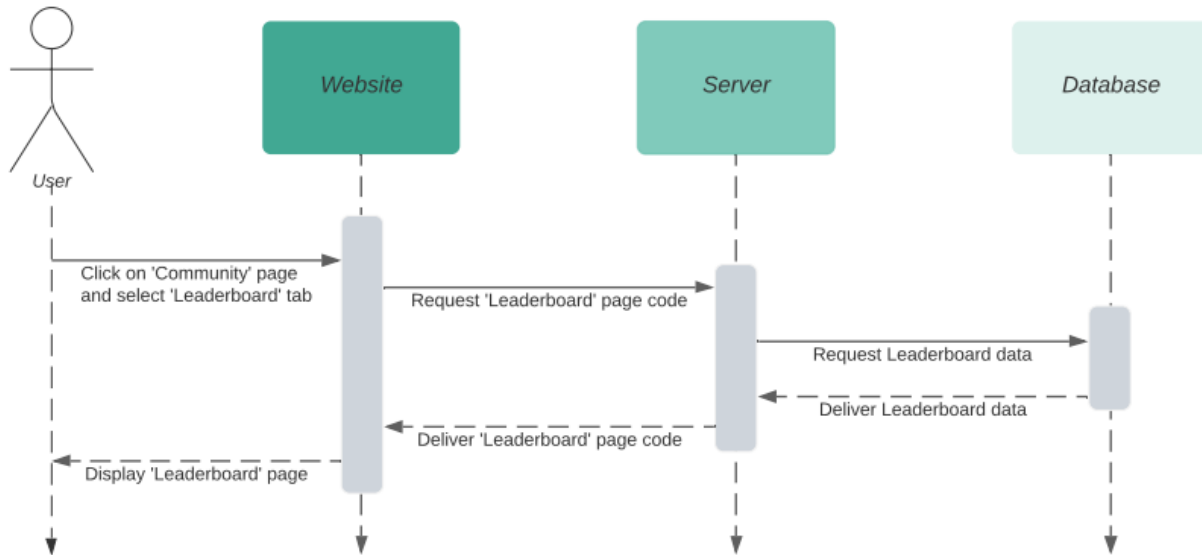
**Given** that I am already logged in,

**When** I click on the community tab on the side bar,

**Then** I would be redirected to the 'Leaderboard' page

**When** I select the 'Leaderboard' button

**Then** I would be redirected to this page which will display a leaderboard



**Feature:** Rewards

**As a** user,

**So that** I am motivated to maintain a healthy lifestyle

**I want** a gamified system which allows me to exchange points for 'real-life' rewards

**Scenario:** user would like to exchange points earned for external rewards

**Given** that I am already logged in,

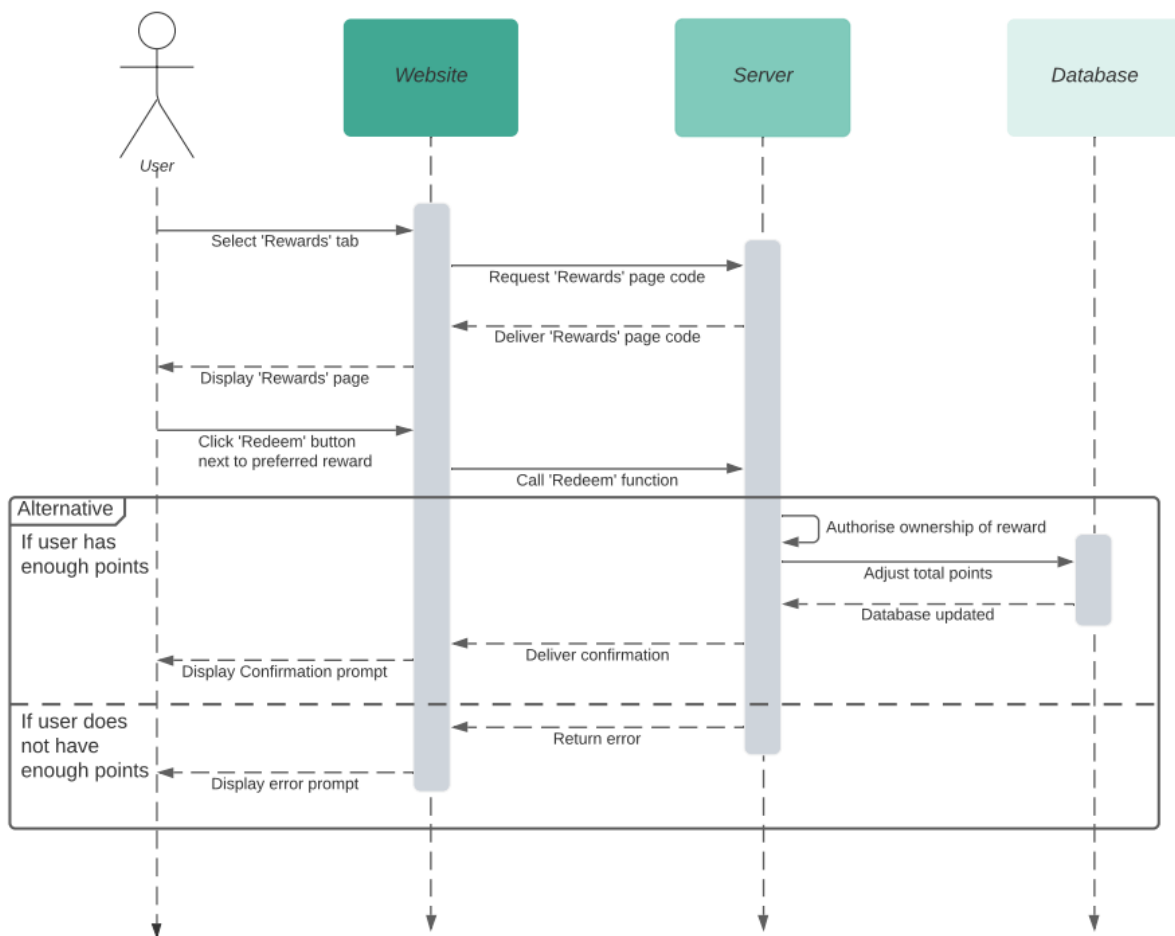
**Then** I click on the rewards tab on the side bar,

**When** I would be redirected to the 'Rewards' page

**Then** I click on a the redeem button next a reward

**And** I have enough points

**Then** I will now own the reward and my account will be updated to deduct the points that were spent.



**Feature:** Users can change their goal weight

**As a** user,

**So that** I can update my weight management objectives,  
**I want to** change my goal weight.

**Scenario:** Users can change the weight they aim to progress towards

**Given** I am already logged in

**When** I click on the profile picture in the top right

**Then** I should be redirected to my profile page

**When** I click on the pencil icon

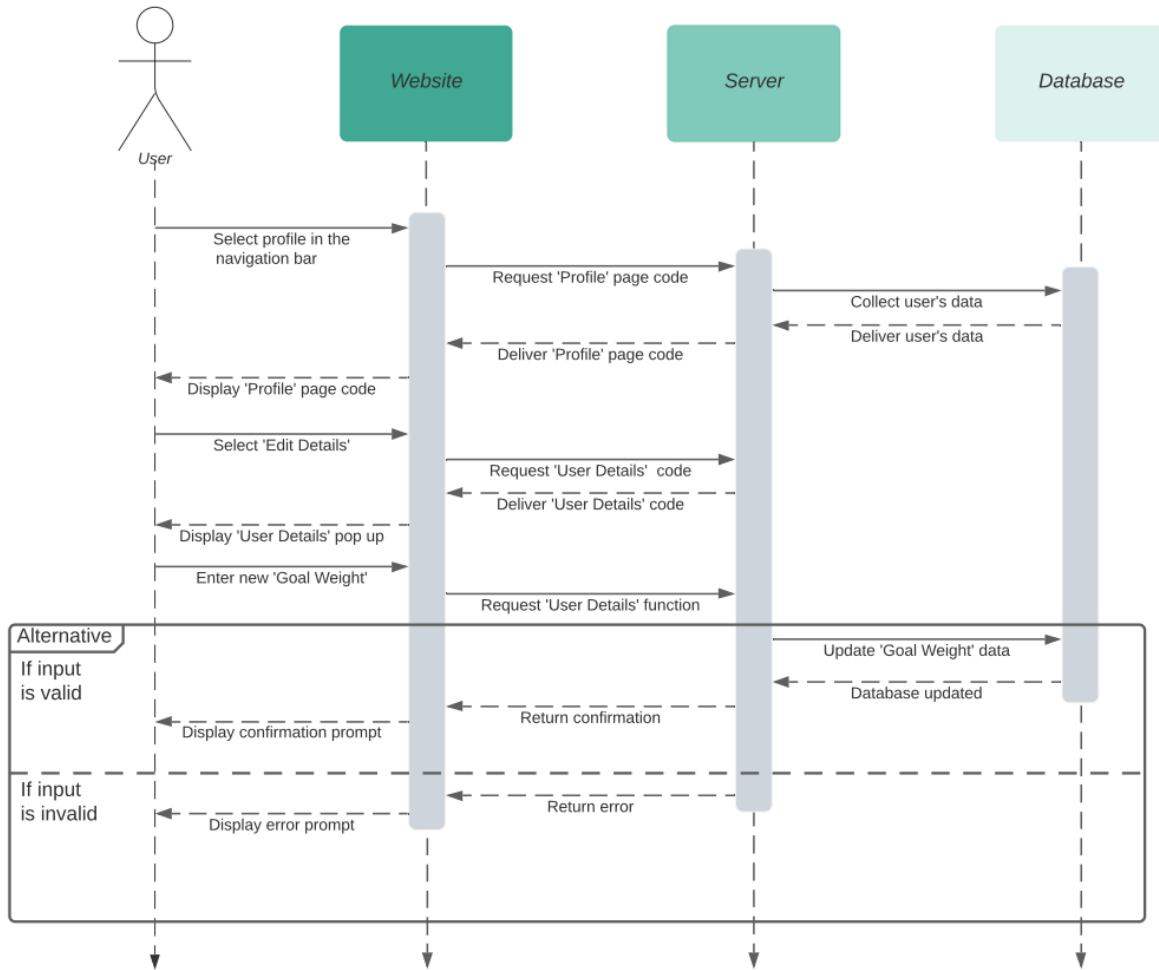
**Then** I should see the 'Edit Details' pop-up menu

**When** I enter a new number in the 'Goal Weight' field

**And** click 'Done'

**Then** the goal weight displayed throughout the app will update





**Feature:** Users can update their current weight

**As a** user,

**So that** I can keep track of my weight management progress,

**I want to** update my current weight.

**Scenario:** Users can update the 'current weight' measurement

**Given** I am already logged in

**When** I click on the profile picture in the top right

**Then** I should be redirected to my profile page

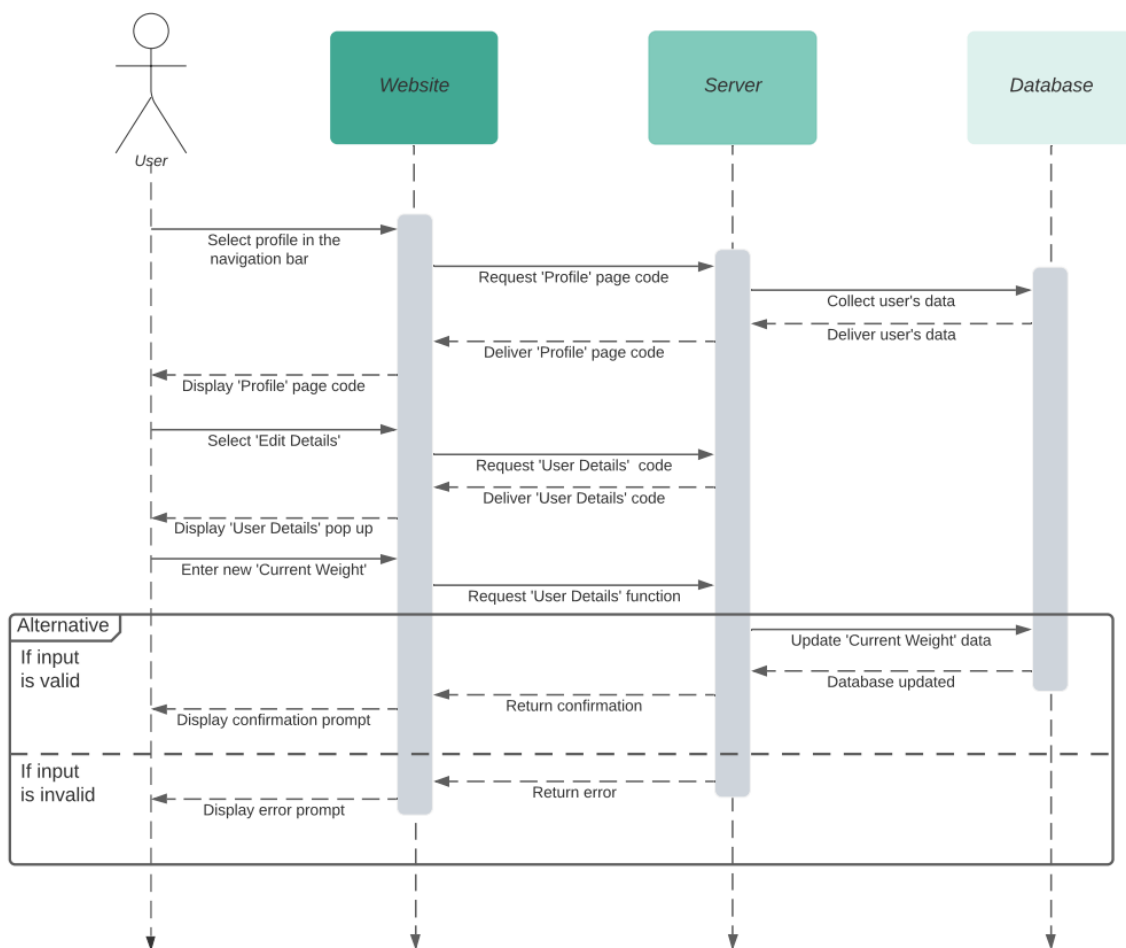
**When** I click on the pencil icon

**Then** I should see the 'Edit Details' pop-up menu

**When** I enter a new number in the 'Current Weight' field

**And** click 'Done'

**Then** the current weight displayed throughout the app will update



**Feature:** Users can update their height

**As a** user,

**So that** I can make sure the app has my accurate measurements,

**I want to** edit my height.

**Scenario:** User can change the 'height' measurement within the app

**Given** I am already logged in

**When** I click on the profile picture in the top right

**Then** I should be redirected to my profile page

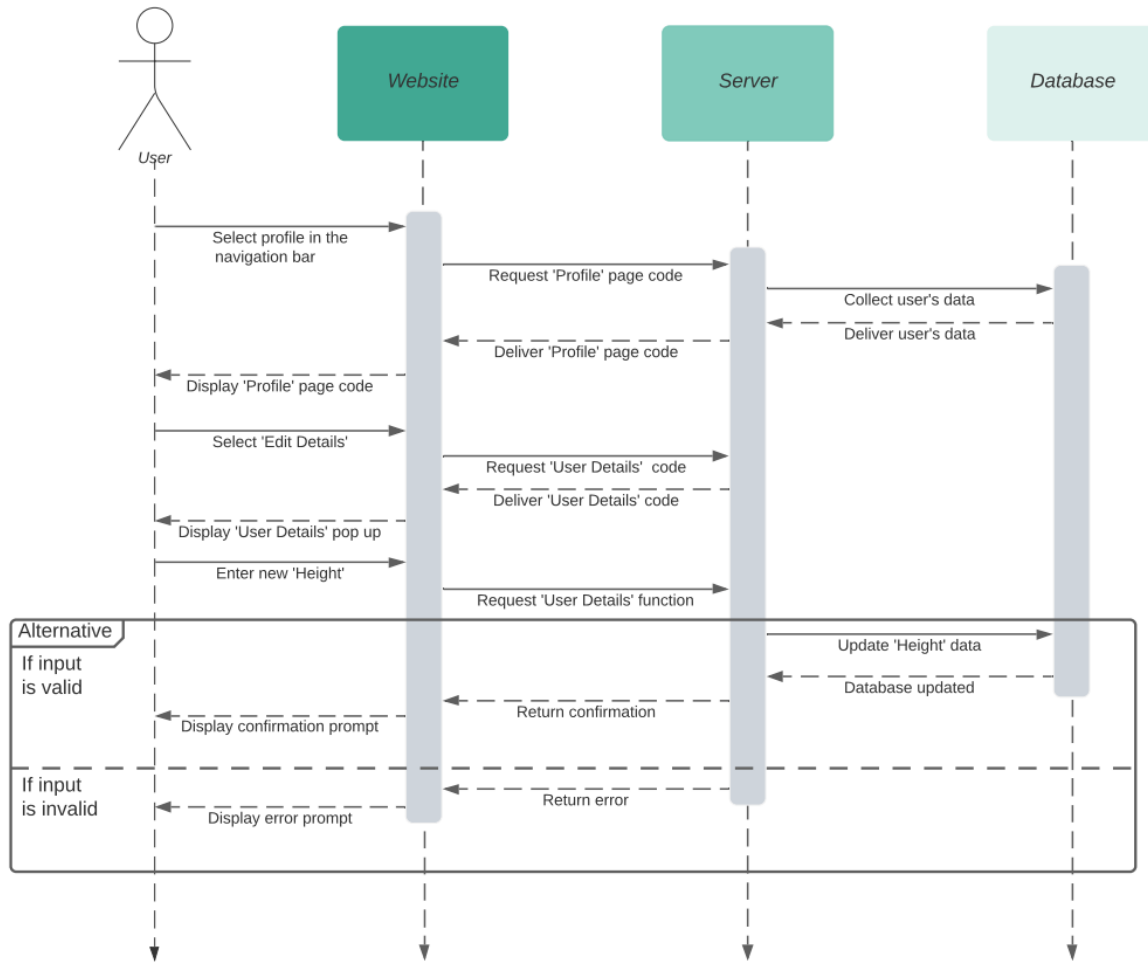
**When** I click on the pencil icon

**Then** I should see the 'Edit Details' pop-up menu

**When** I enter a new number in the 'Height' field

**And** click 'Done'

**Then** the height displayed throughout the app will update



**Feature:** Users can change their age

**As a** user,

**So that** I can resolve any mistakes made about my d.o.b. during the sign-up process,

**I want to** edit my date of birth.

**Scenario:** User can change the 'age' measurement within the app

**Given** I am already logged in

**When** I click on the profile picture in the top right

**Then** I should be redirected to my profile page

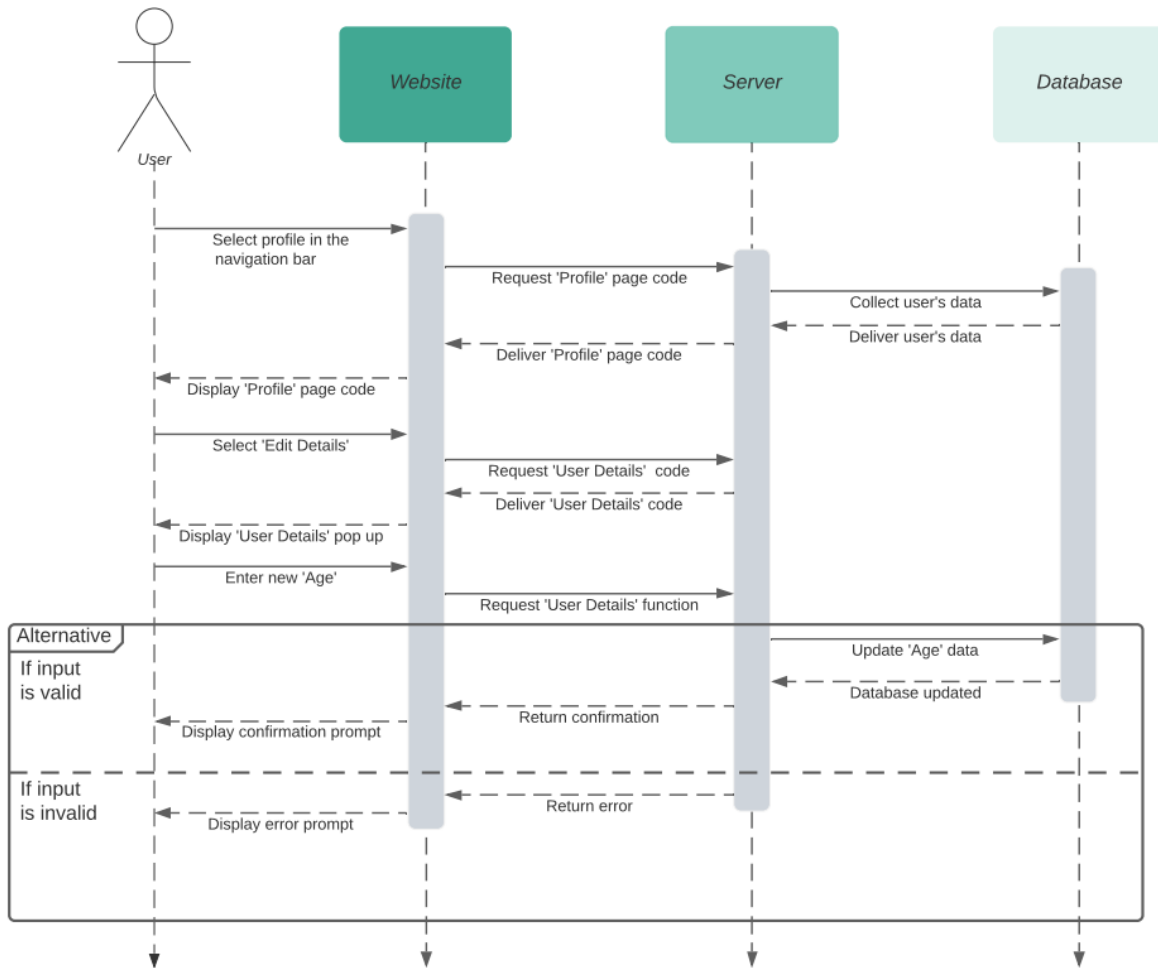
**When** I click on the pencil icon

**Then** I should see the 'Edit Details' pop-up menu

**When** I enter a valid birthday in the 'Date of Birth' field

**And** click 'Done'

**Then** the age displayed throughout the app will update



**Feature:** Users can view their BMI

**As a** user

**So that** I can assess my current health

**I want to** view my BMI

**Scenario:** A user will be able to view their current BMI

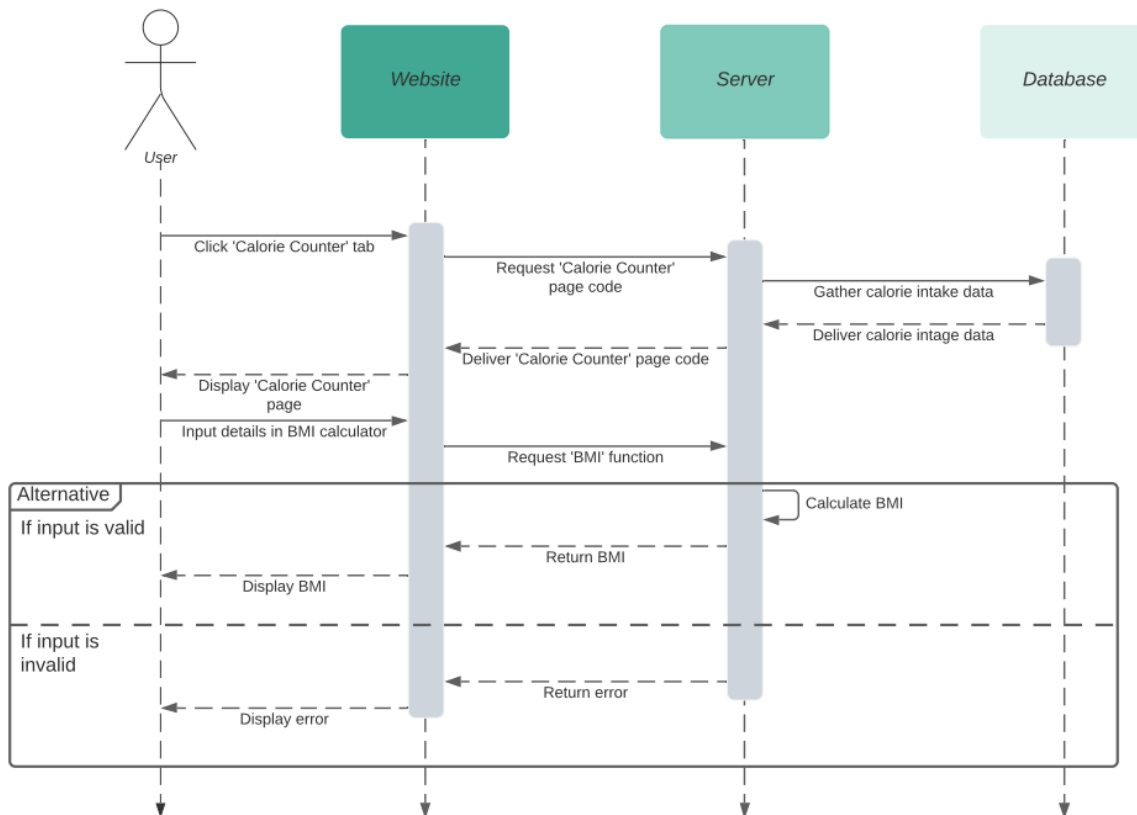
**Given** I am already logged in

**When** I click on the 'Calorie Counter' tab

**Then** I will be redirected to the 'Calorie Counter' page

**And** If I fill out the 'BMI Calculator' with the relevant details

**Then** I should be presented with my BMI



**Feature:** Users can view a food diary consisting of consumed food in a calendar format

**As a** user,

**So that** I can keep track of my eating habits,

**I want to** view the contents of my diet on any day of my choosing.

**Scenario:** User can select any date in the past (on a calendar) and view the food consumed on that day

**Given** I am already logged in

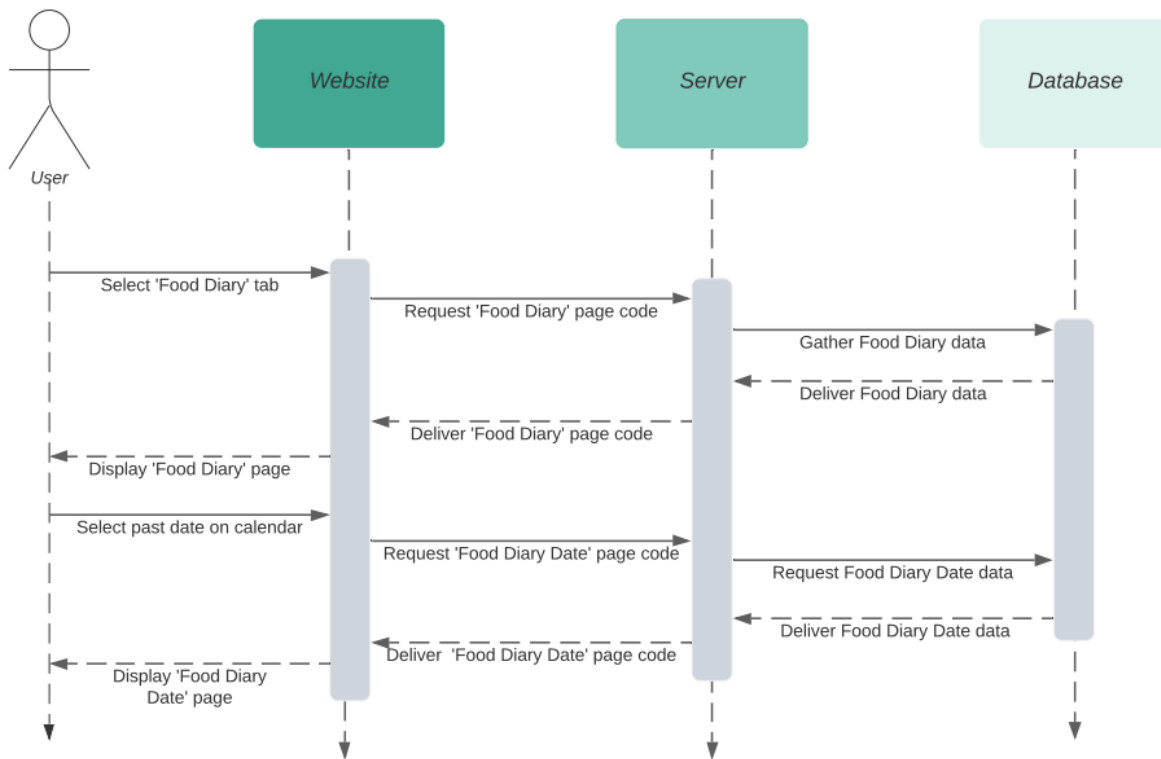
**When** I click on the 'Food Diary' tab

**Then** I should be redirected to the 'Food Diary calendar'

**When** I select a past date

**Then** I will be able to view my diet for that specific date





**Feature:** Users can select any future date in the calendar and plan a meal in advance

**As a** user,

**So that** I can enforce better eating habits,

**I want to** pre-plan meals for future dates.

**Scenario:** User can select any date in the future (on a calendar) and plan a meal for that day

**Given** I am already logged in

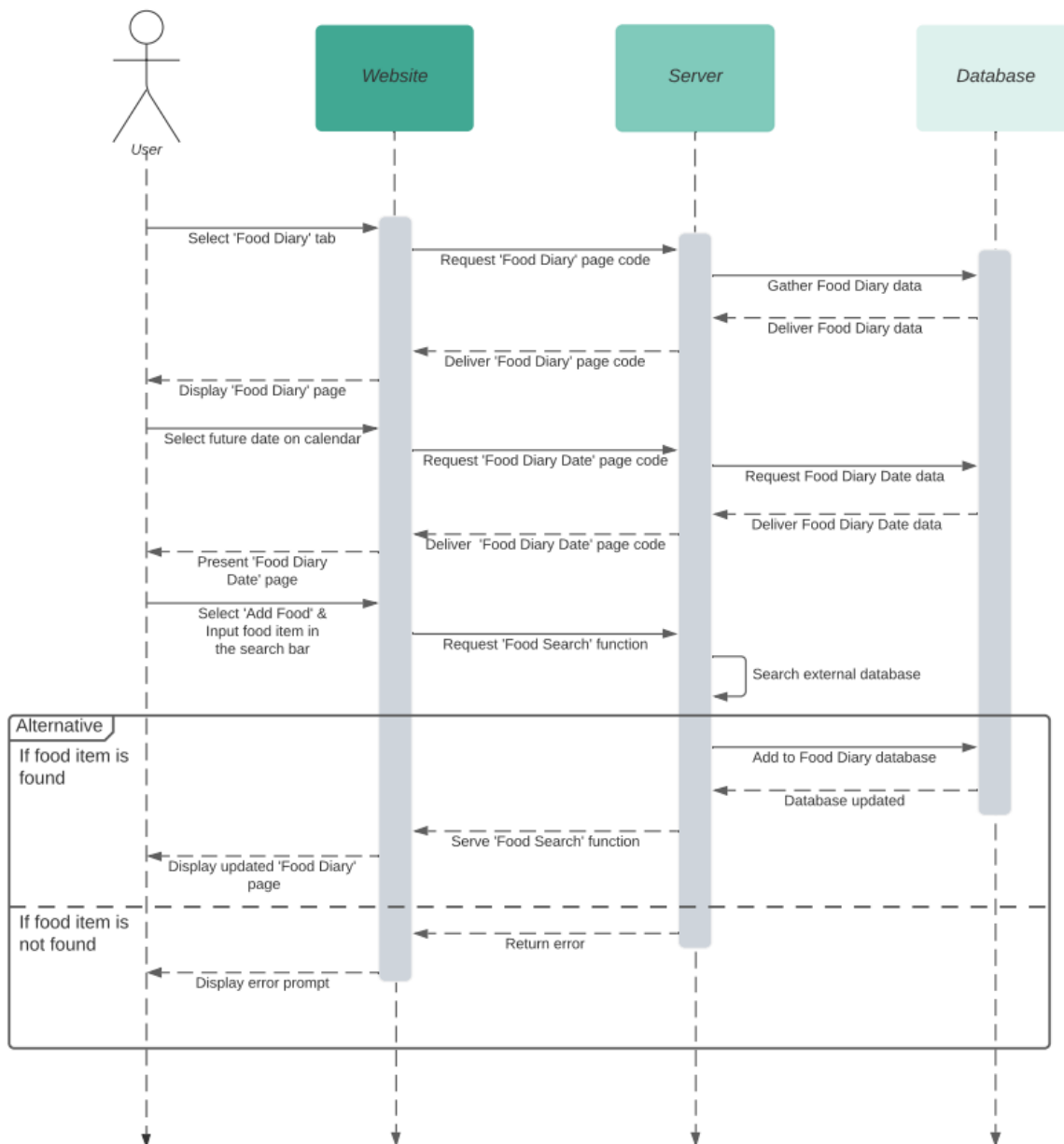
**When** I click on the 'Food Diary' tab

**Then** I should be redirected to the 'Food Diary calendar'

**When** I select a future date

**And** I select 'Add Food'

**Then** I can add that item to a planned meal for that day



**Feature:** Users can view posts in a community forum

**As a** user,

**So that** I can get tips and encouragement on my weight management,

**I want to** view the posts of like-minded users.

**Scenario:** A user can view a list of community posts by other users

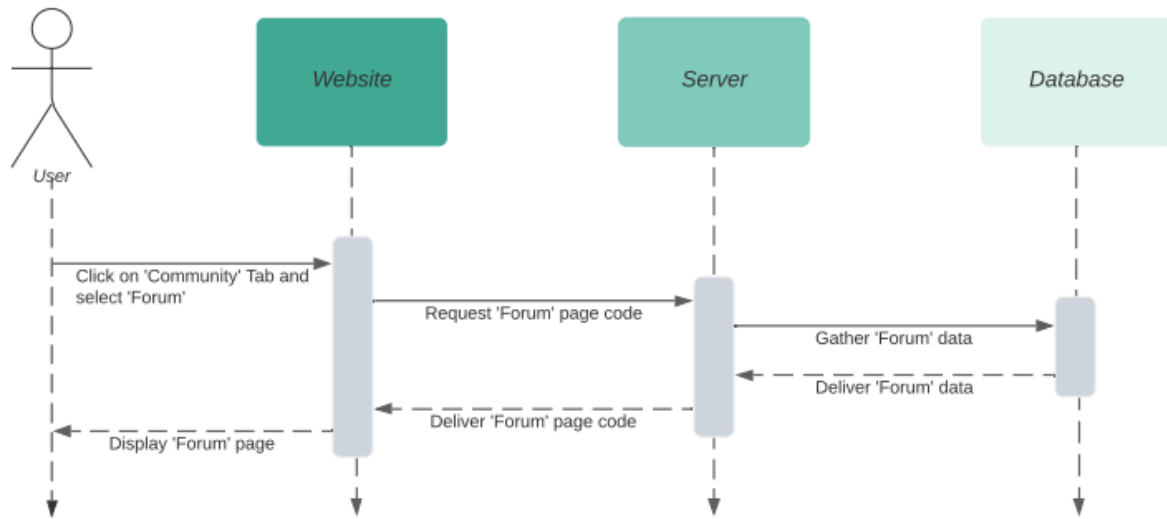
**Given** I am already logged in

**When** I click on the 'Community' tab

**Then** I should be redirected to the 'Community' page

**And** If I select the 'Forum' button

**Then** I can view a series of posts from users in the community



**Feature:** Users can create posts in the community forum

**As a** user,

**So that** I can help others by spreading my knowledge and experiences,

**I want to** create and post my insights in a text format to a public platform.

**Scenario:** A user can create a post (consisting of text) and share it with other members of the community

**Given** I am already logged in

**When** I click on the 'Community' tab

**Then** I should be redirected to the 'Community' page

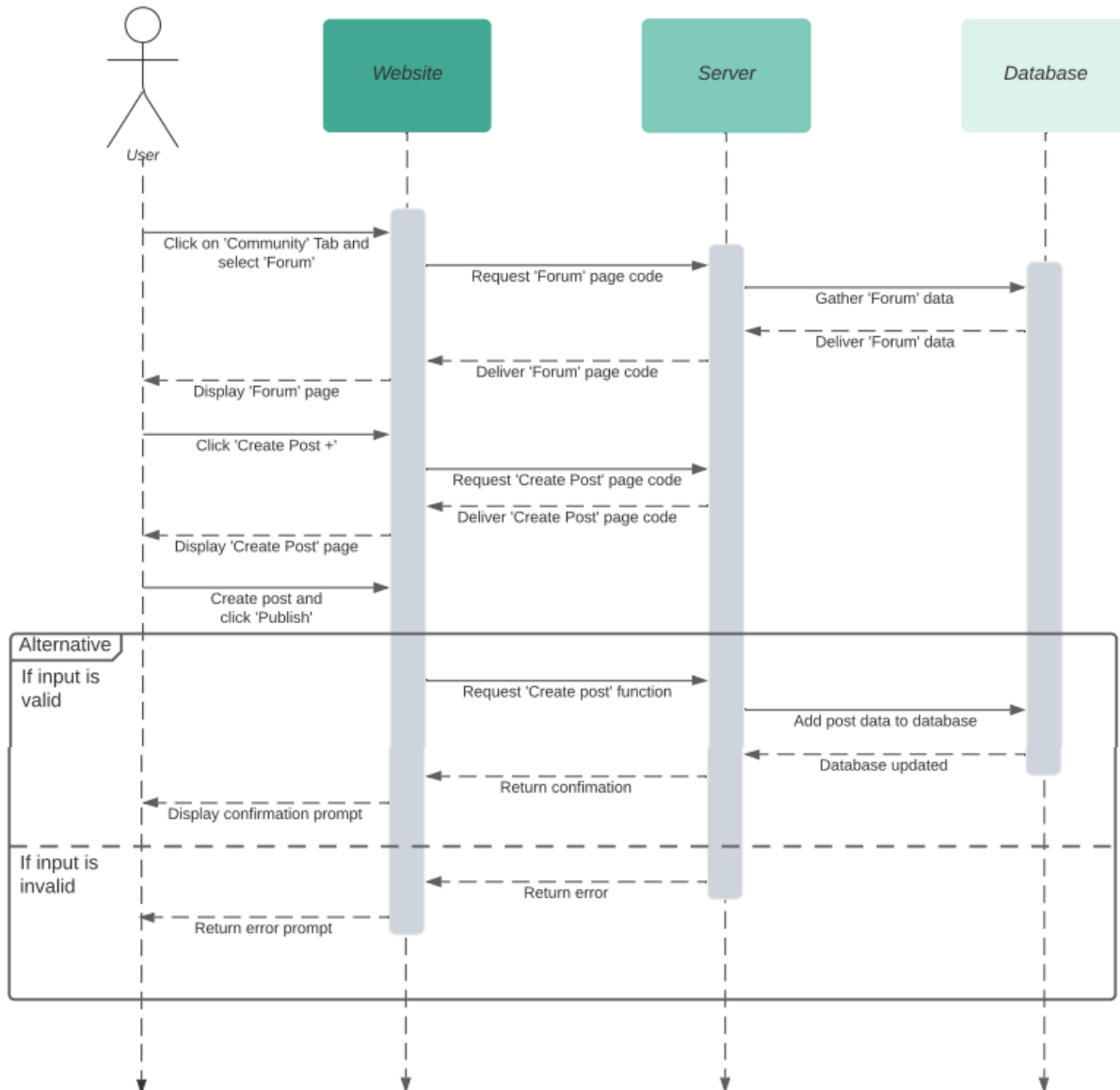
**When** I click on the 'Forum' button

**And** select the '+ Create Post' button

**Then** a pop-up should open

**When** I fill out the title, body and select 'Publish'

**Then** my post will have been created for the community to see



**Feature:** Authors can edit their own posts in the community forum

**As an** author,

**So that** I can rectify mistakes in my posts,

**I want to** edit posts I have created.

**Scenario:** User can modify the content of posts they have created

**Given** I am already logged in

**When** I click on the profile icon in the top right

**Then** I should be redirected to my profile page

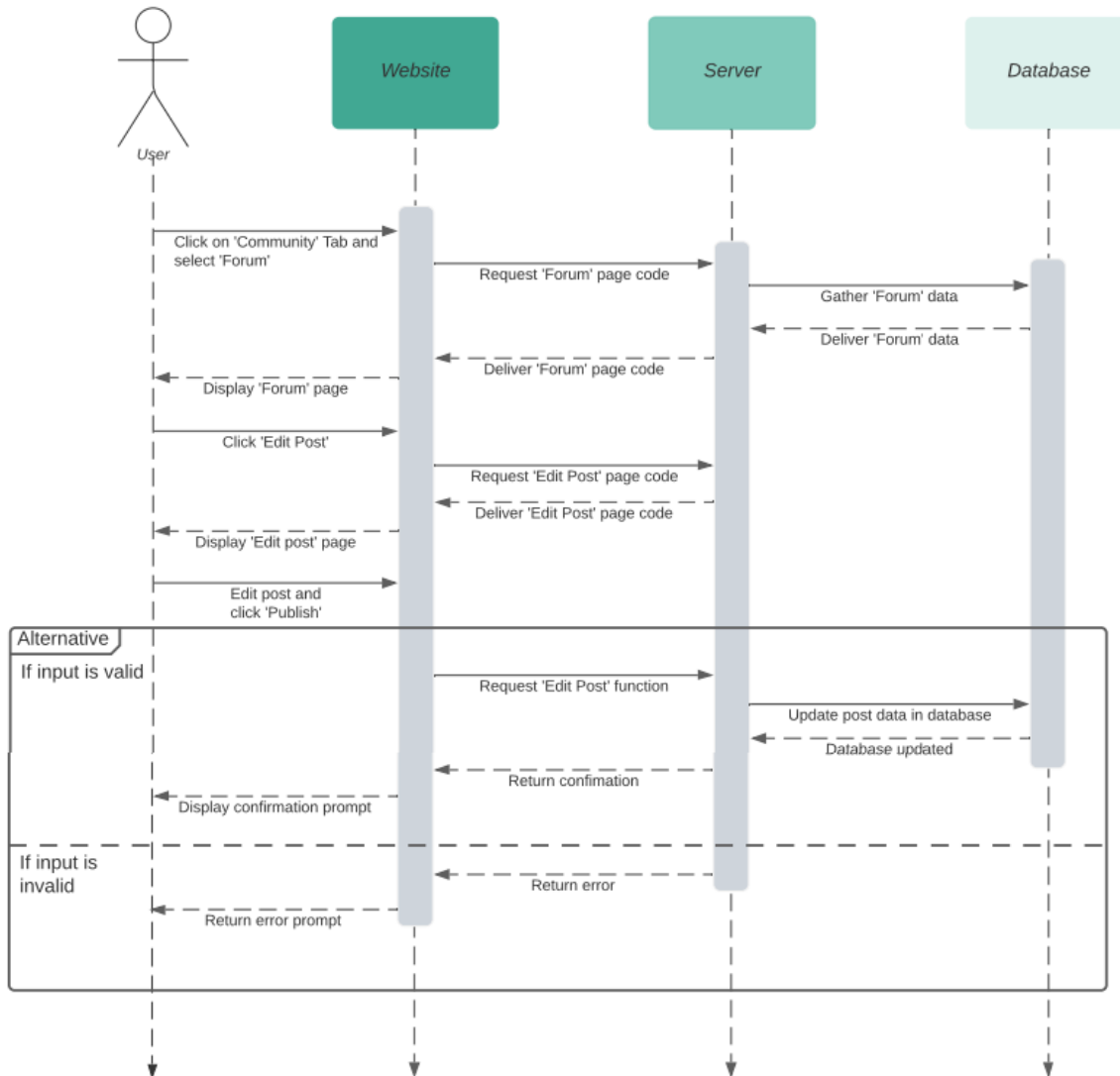
**When** I select the 'Posts' button

**And** I click on the 'Edit' button on a post

**Then** a pop-up will open

**And** If I modify the contents of the pop-up and select 'Done'

**Then** my post will have been edited



**Feature:** Authors can delete their own posts in the community forum

**As an** author,

**So that** I can remove my post from the public domain,

**I want to** delete a post I have previously created.

**Scenario:** User will delete a post they have previously created

**Given** I am already logged in

**When** I click on the profile icon in the top right

**Then** I should be redirected to my profile page

**When** I select the 'Posts' button

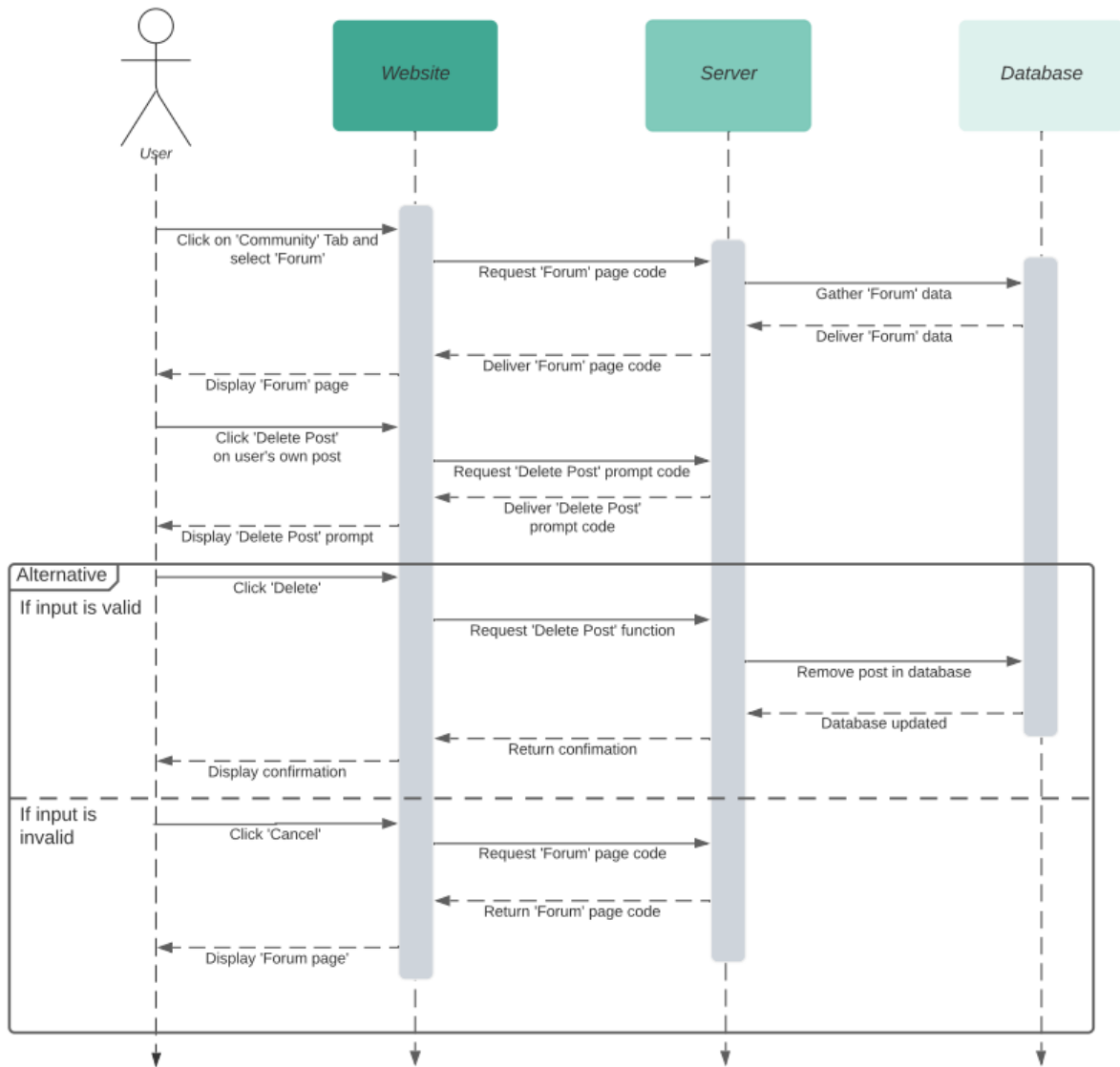
**And** I click on the 'Delete' button on a post

**Then** a pop-up will open

**And** If I select 'Yes'

**Then** my post will be deleted





**Feature:** Users can like posts in the community forum

**As a** user,

**So that** I can show my appreciation for another post,

**I want to** leave a like on their post.

**Scenario:** A user will be able to leave a 'like' underneath each post

**Given** I am already logged in

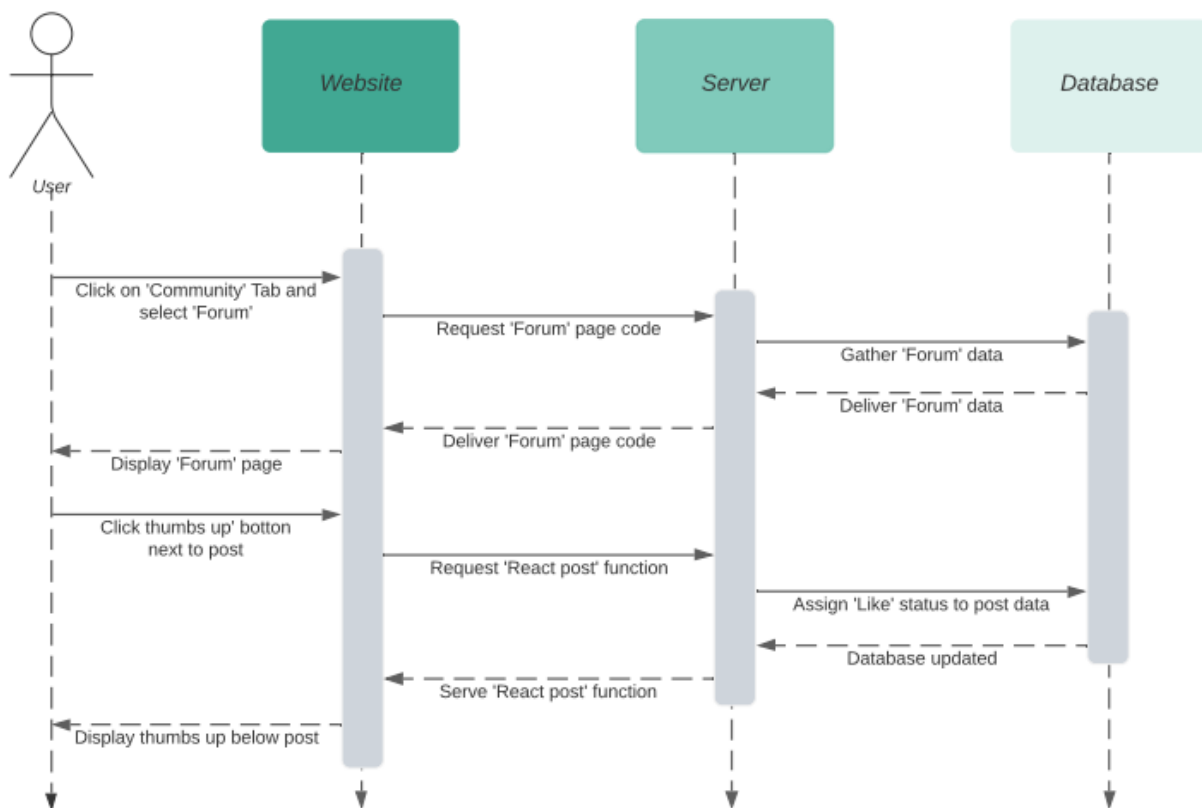
**When** I click on the 'Community' tab

**Then** I should be redirected to the 'Community' page

**When** I click on the 'Forum' button

**And** I select the Thumbs-up icon

**Then** I can leave a like on the post



**Feature:** Users can dislike posts in the community forum

**As a** user,

**So that** I can show my dissatisfaction for another post,

**I want to** leave a dislike on their post.

**Scenario:** A user will be able to leave a 'dislike' underneath each post

**Given** I am already logged in

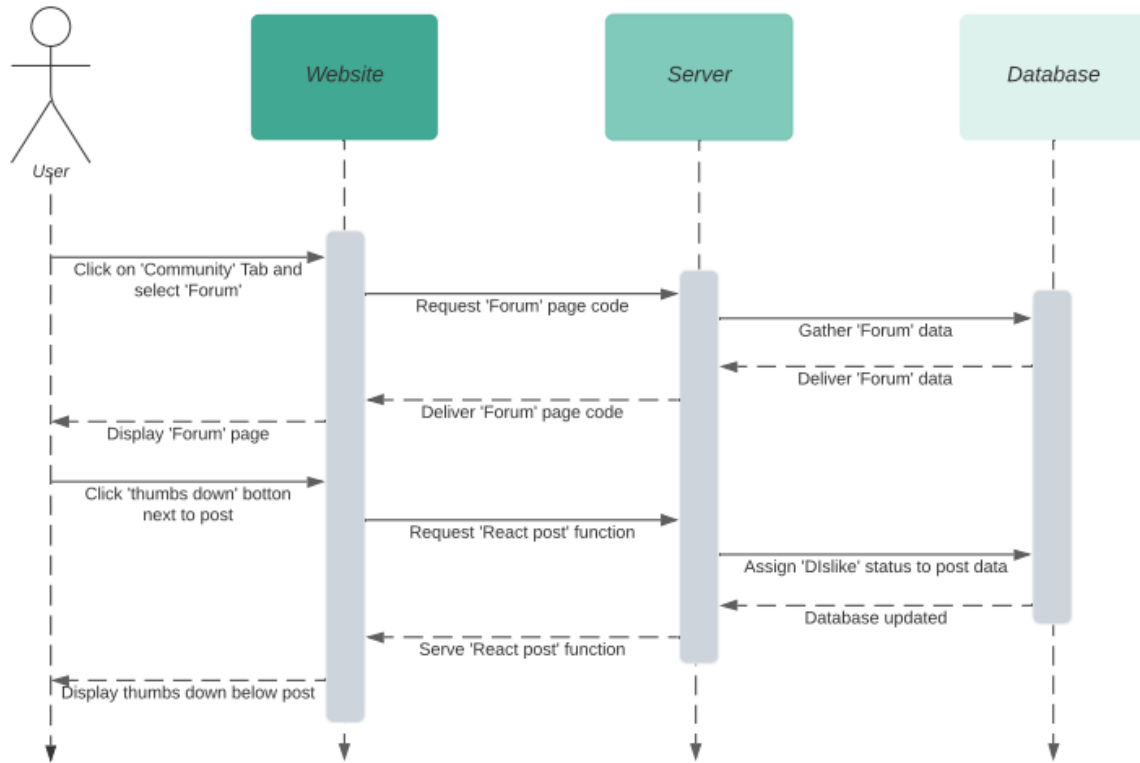
**When** I click on the 'Community' tab

**Then** I should be redirected to the 'Community' page

**When** I click on the 'Forum' button

**And** I select the Thumbs-down icon

**Then** I can leave a dislike on the post



**Feature:** Users can sort through posts in the community forum (popularity, recent)

**As a** user,

**So that** I can view different types of community posts,

**I want to** sort my community forum page with different criteria.

**Scenario:** A user will switch between sorting through popular and recent posts to get exposure to different posts

**Given** I am already logged in

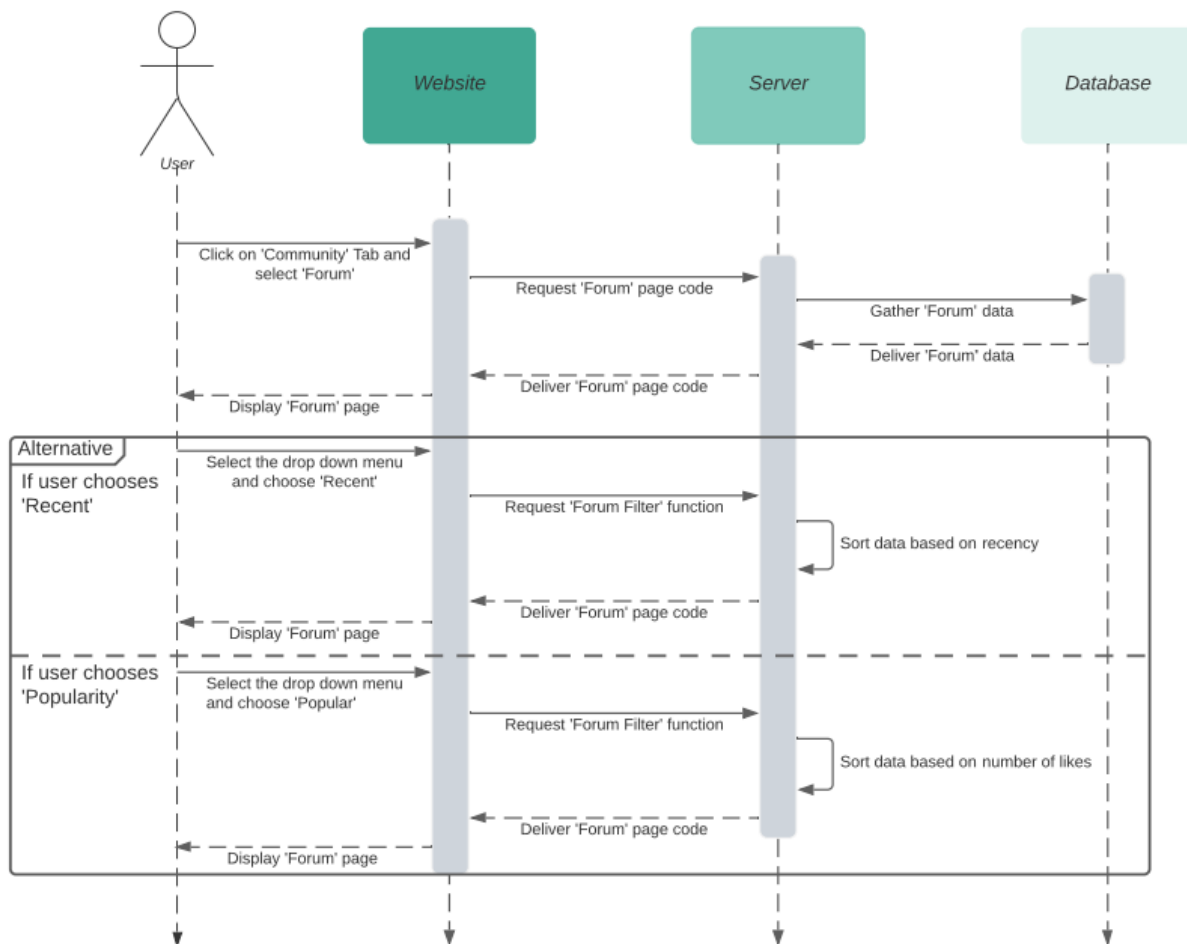
**When** I click on the 'Community' tab

**Then** I should be redirected to the 'Community' page

**When** I click on the 'Forum' button

**And** I select the ('Recent'/'Popular') sorting option

**Then** the posts on my forum feed will be sorted in order of (newest to latest /most-liked to least-liked)



**Feature:** Users can find posts in the community forum through a search by title

**As a** user,

**So that** I can find community posts relevant to me,

**I want to** search blogs by their title.

**Scenario:** Users will find relevant blogs through a search bar

**Given** I am already logged in

**When** I click on the 'Community' tab

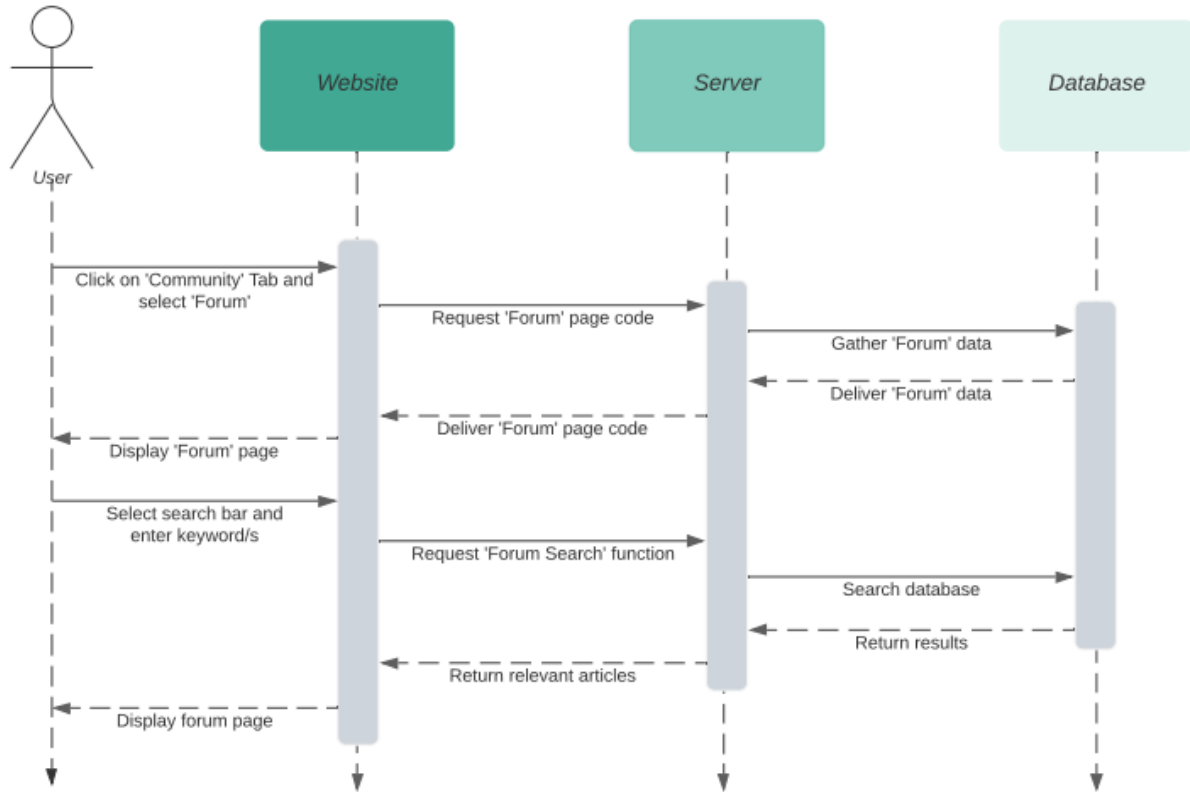
**Then** I should be redirected to the 'Community' page

**When** I click on the 'Forum' button

**Then** I fill out the search bar

**And** I click 'Enter'

**Then** I am presented with posts which have the searched word in the title



**Feature:** Users can find posts in the community forum through a search by author

**As a** user,

**So that** I can find posts from a specific author,

**I want to** search for blogs by their author.

**Scenario:** Users will find relevant blogs through a search bar

**Given** I am already logged in

**When** I click on the 'Community' tab

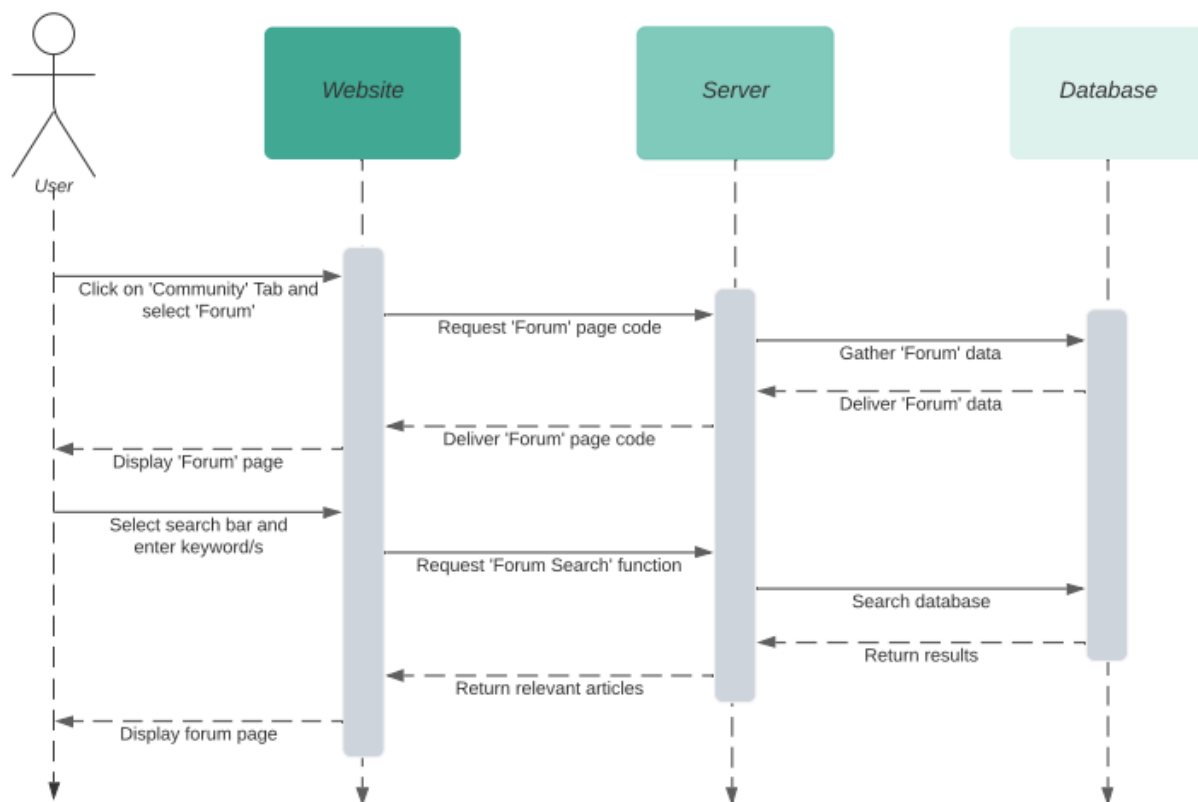
**Then** I should be redirected to the 'Community' page

**When** I click on the 'Forum' button

**Then** I fill out the search bar

**And** I click 'Enter'

**Then** I am presented with authors who have the searched word in their name



**Feature:** Users can follow other profiles to view the posts they have created

**As a** user,



**So that** I can keep up to date with my favourite authors,  
**I want to** follow their profile.

**Scenario:** Users will be able to view the page of an author and see their other posts

**Given** I am already logged in

**When** I select the 'Community' tab

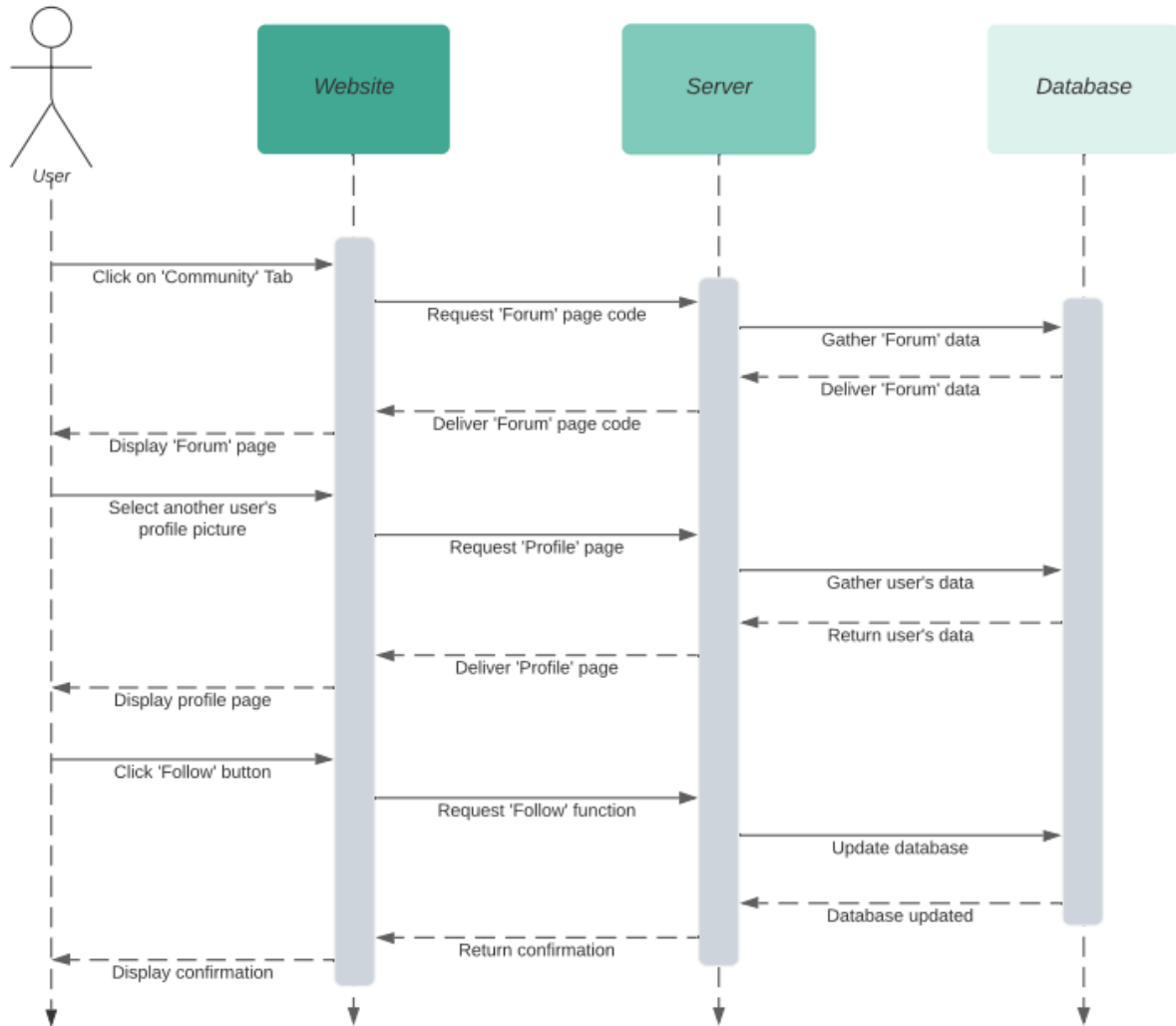
**Then** I should be redirected to the 'Community' tab

**When** I select a user other than myself

**Then** I will be redirected to their profile

**And** if I select the 'Follow' button

**Then** the user will be added to my 'Following' list



**Feature:** Users can change their username

**As a** user,

**So that** I can change my online identity,

**I want to** edit my current username.

**Scenario:** User will be able to edit their username

**Given** I am already logged in

**When** I click on the settings icon,

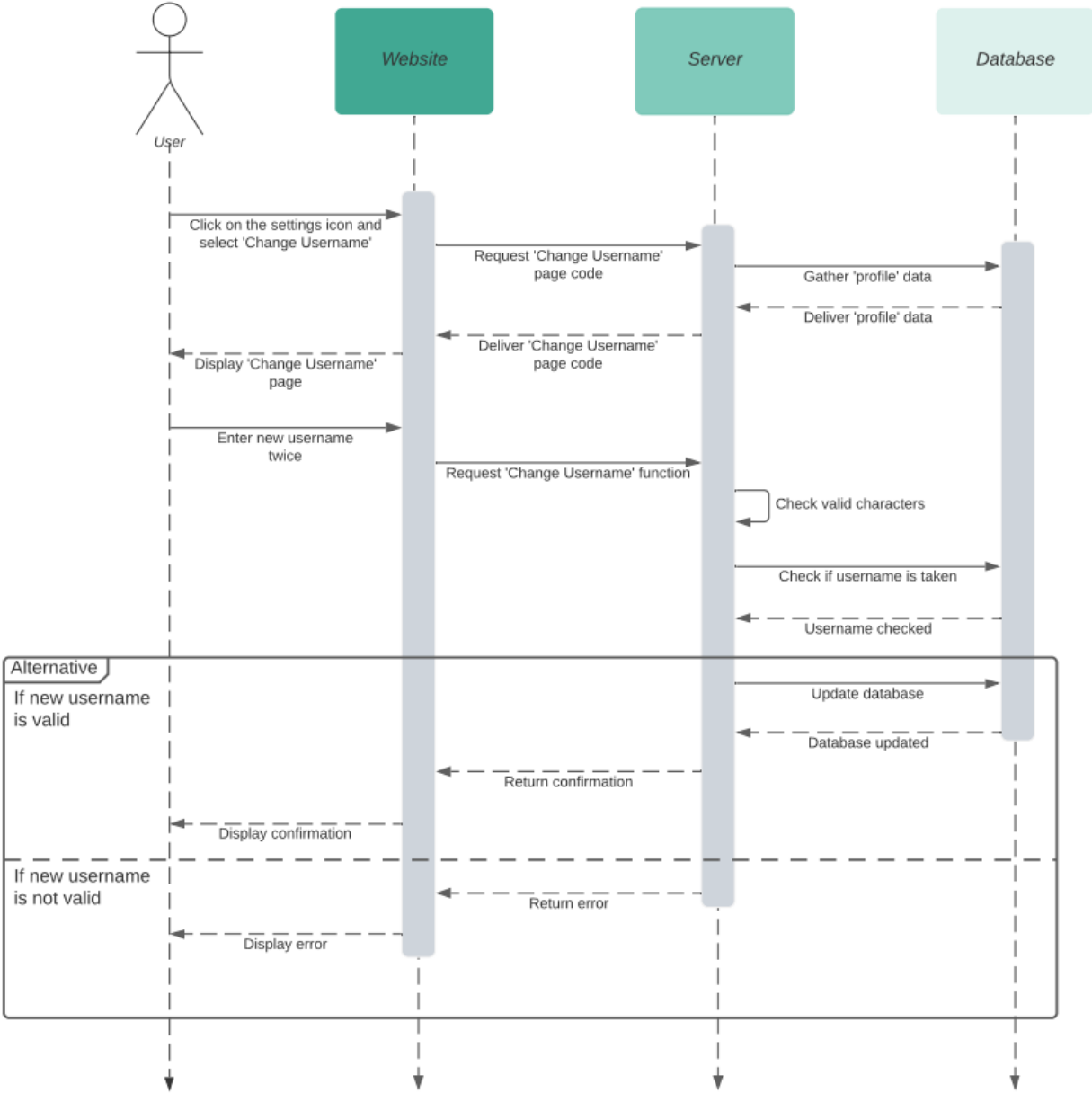
**Then** the setting bar will expand to show all the options available.

**When** I click “Change Username”,

**Then** I will be redirected to a new page.

**When** I fill my new username twice and they both match,

**Then** this should update my current username with the recently updated one and I would be prompted with a message notifying me that this has occurred successfully



**Feature:** Users can change email

**As a** user,

**So that** I am able to update my personal email that is saved in the database with the email that I desire,

**I want** to be able to reset my email.

**Scenario:** User's current personal email has changed, so they would like to use that one instead of the one they had initially used to register into our website

**Given** that I am already logged in,

**When** I click on the settings icon,

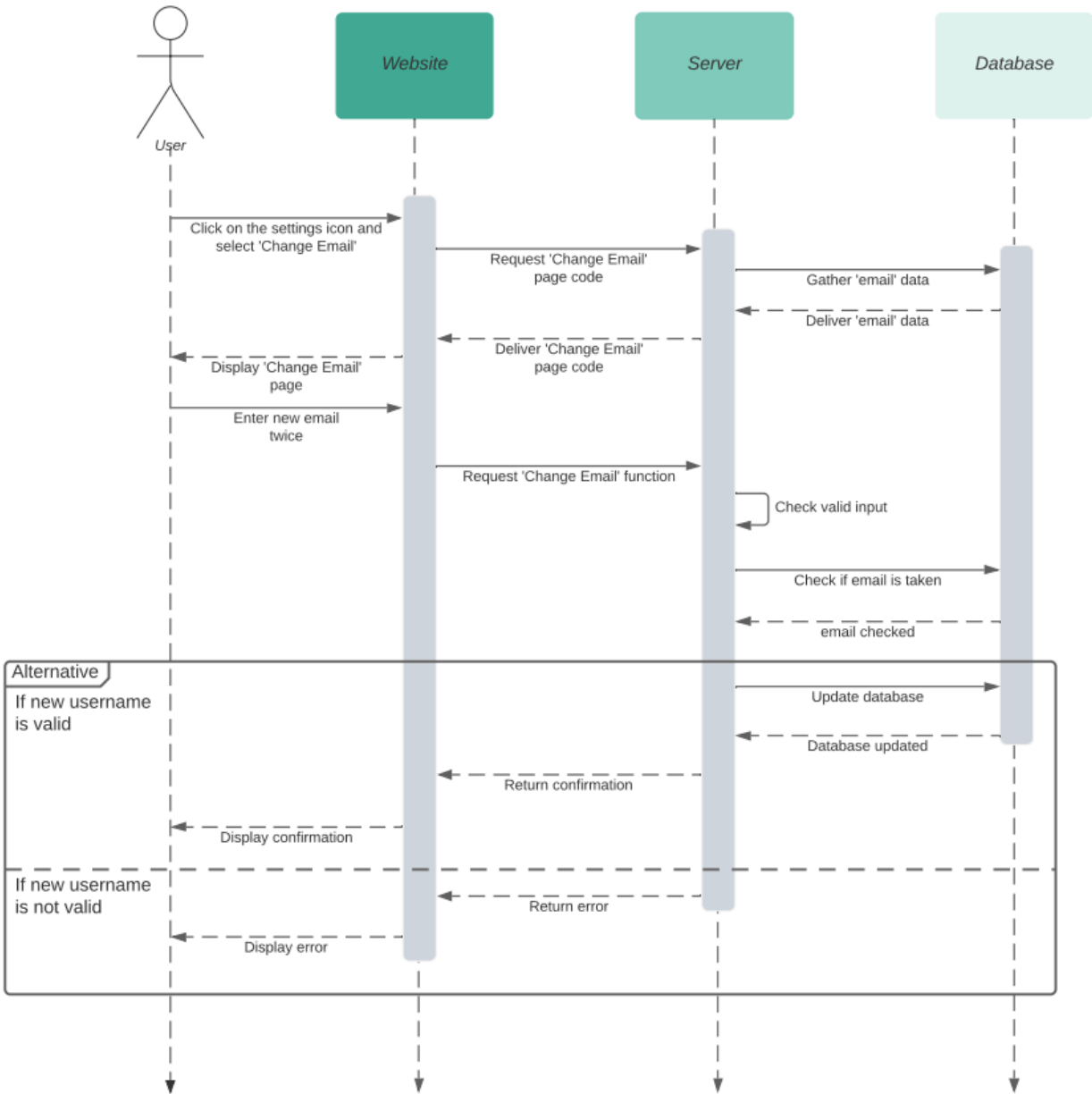
**Then** the setting bar will expand to show all the options available.

**When** I click "Change Email",

**Then** I will be redirected to a new page.

**When** I fill my new email twice and they both match,

**Then** this should update my current email with the recently updated one and I would be prompted with a message notifying me that this has occurred successfully



**Feature:** Users can change their password

**As a** user,

**So that** I can keep my account accessible and secure,

**I want to** change my password.

**Scenario:** User will change their password

**Given** I am already logged in

**When** I click on the settings icon,

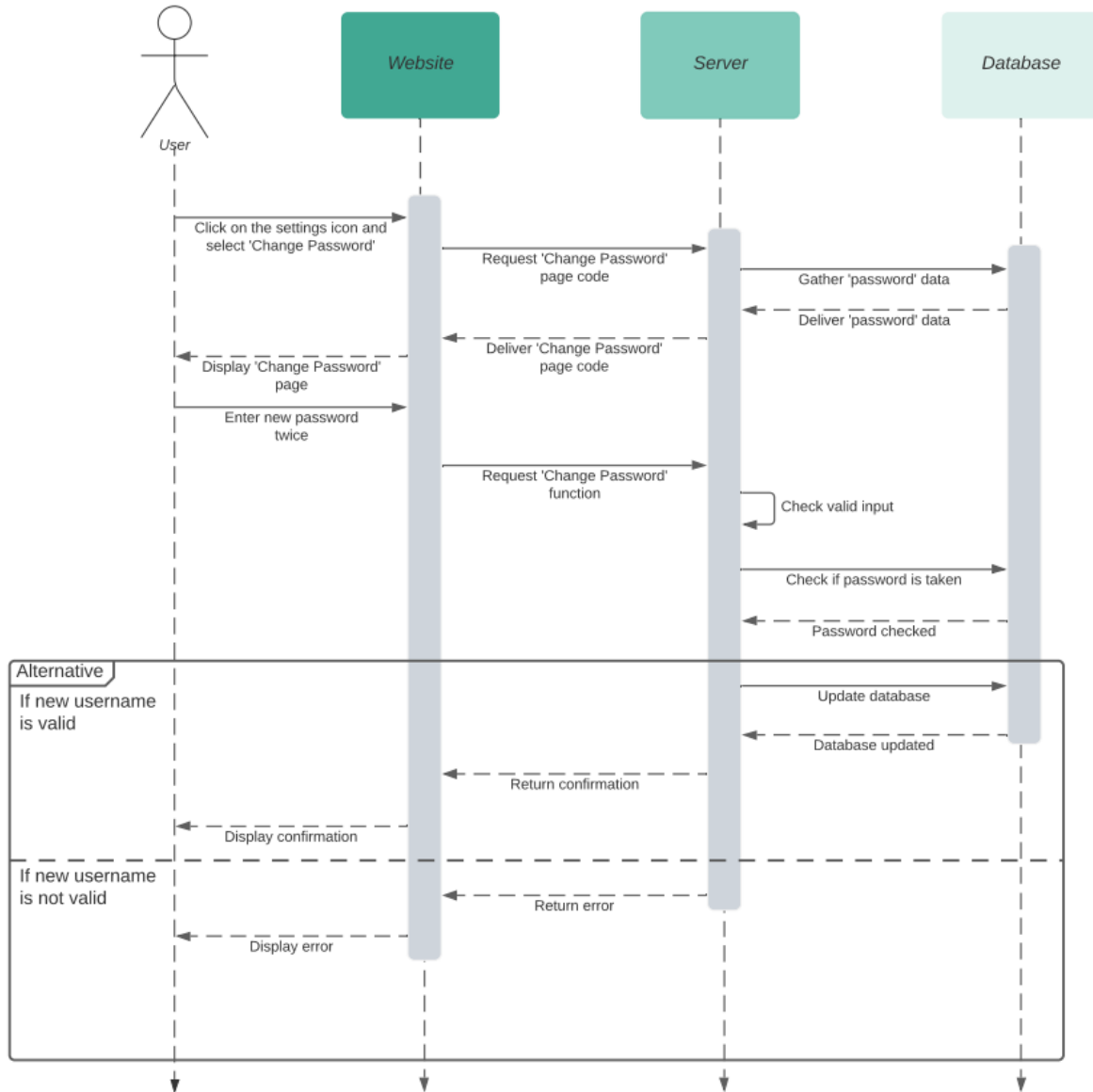
**Then** the setting bar will expand to show all the options available.

**When** I scroll down and click “Change Password”,

**Then** I will be redirected to a new page.

**When** I fill my new password twice and they both match,

**Then** this should update my current password and I would be prompted with a message notifying me that this has occurred successfully



**Feature:** Users can change their profile pictures

**As a** user,

**So that** I can customise my online identity,

**I want to** change my profile picture.



**Scenario:** User will upload and set a new profile picture

**Given** I am already logged in

**When** I click on the settings icon,

**Then** the setting bar will expand to show all the options available.

**When** I scroll down and click “Change Profile Picture”,

**Then** I will be redirected to a new page.

**When** I upload a new image

**And** I click save

**Then** I will have a new profile picture

