

Use Case Descriptions

Use Case ID:	001		
Use Case Name:	Register		
Created By:	Jeannie Wong	Last Updated By:	Ben
Date Created:	30 January 2024	Date Last Updated:	5 February 2024

Actor	User (Initiating Actor), System
Description	Users visiting the website for the first time can register for a new account.
Preconditions	The user must not have a user account tagged to their registering email address prior to the registration
Postconditions	<p>The user has successfully registered for a user account in the website with a unique email address and password and their new user account is added into the system database.</p> <p>OR</p> <p>The user is notified of the reason(s) why the registration of the account is unsuccessful.</p>
Priority	High
Frequency of Use	Once per user

Flow of Events	<ol style="list-style-type: none">1. On the landing page, the User clicks on the Login button.2. The System will redirect the User to the Login page.3. The User will click on the Sign Up button to register for a new user account.4. The System will redirect the User to the Register page.5. The User will enter a valid name and email address for their new user account in the respective text fields.6. The User will click the Get OTP button.7. The system queries the database to check if an identical email address already exists.8. The system will automatically generate a One-Time Password (OTP), which is sent to the User's email address.9. The User enters the OTP into the OTP field and clicks the Next button.10. The System verifies the correctness of the OTP.11. The User will be redirected to the next stage of the Register page.12. The User will enter a valid password into the password field.13. The System will verify if the password satisfies all the requirements.14. The User will re-enter the password in the respective field to confirm their password.15. The User will click on the Sign Up button to complete the User Account Registration.16. Upon verification, the System will store the new user account in the database securely.17. Once the registration is successful, the System will automatically help the User to log into their account.
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Alternative Flows	<p><u>AF-S5: The user enters an email address that has already been registered.</u></p> <ol style="list-style-type: none">1. The system will display the message “Email address has already been registered, please enter another email address”.2. The system will return to Step 5. <p><u>AF-S5: The user enters an email address that is of an invalid format.</u></p> <ol style="list-style-type: none">1. The system will display an error message “Email is invalid” above the email address field.2. The system will return to Step 5. <p><u>AF-S5: The user enters a name that contains invalid characters (numbers, special symbols)</u></p> <ol style="list-style-type: none">1. The system will display an error message “Name is invalid” above the name field.2. The system will return to Step 5. <p><u>AF-S5: The user does not enter a name/email address.</u></p> <ol style="list-style-type: none">1. The system will display an error message “Name/Email is required” above the respective field.2. The system will return to Step 5. <p><u>AF-S9: The user inputs an incorrect OTP</u></p> <ol style="list-style-type: none">1. The system will display the pop-up message “Wrong OTP! Please try again.”2. The system will return to Step 9 and wait for the user to enter the correct OTP. <p><u>AF-S12: The user enters a password that does not satisfy all the requirements.</u></p> <ol style="list-style-type: none">1. The system will display an error message “Password has to be at least 8 characters long” above the password field.2. The system will return to Step 12 and wait for the user to enter another password. <p><u>AF-S12: The user does not enter a password.</u></p> <ol style="list-style-type: none">1. The system will display an error message “Password is required” above the password field.2. The system will return to Step 12 and wait for the user to enter a password.
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	<p><u>AF-S14: The user enters a mismatched password.</u></p> <ol style="list-style-type: none"> 1. The system will display the message “Passwords must match” above the re-entered password field. 2. The system will return to Step 12 and wait for the user to re-enter the password. <p><u>AF-S15: The user did not complete all of the input fields.</u></p> <ol style="list-style-type: none"> 1. When the user clicks on the “Sign Up” button, the system will display the pop-up message “Please check that all the fields are filled up.”. 2. The system will return to Step 15 and wait for the user to complete all remaining fields.
Exceptions	<p><u>EX-1: The user did not receive the OTP in his email.</u></p> <ol style="list-style-type: none"> 1. The user can click on the “Get OTP” button, made available after 1 minute, and a new OTP will be generated. 2. The system will return to Step 8 and wait for the user to enter OTP again. <p><u>EX-2: The user requests for more than 3 OTP requests.</u></p> <ol style="list-style-type: none"> 1. The fourth time the user requests to generate a new OTP, the system will generate the pop-up message “Please try again with a different email.”. 2. The system will return to Step 5 and wait for the user to enter a different email.
Extends	Login
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	002		
Use Case Name:	Login		
Created By:	Jeannie Wong	Last Updated By:	Brendan
Date Created:	3 February 2024	Date Last Updated:	5 February 2024

Actor	User (Initiating Actor), System
Description	The User can login to his/her account with the correct credentials that he/she has entered when he/she registered for an account.
Preconditions	<ol style="list-style-type: none"> 1. The user must be connected to the Internet. 2. The user must have a registered account.
Postconditions	<p>The user has successfully logged into his/her own account.</p> <p>OR</p> <p>The user is notified of the reason(s) why he/she is unable to login into his/her account. For instance, the user has entered the wrong email address or password.</p>
Priority	High
Frequency of Use	High

Flow of Events	<ol style="list-style-type: none"> 1. On the landing page, the user may click on the Login button, the System redirects the user to the Login page. 2. On the Login page, the User will enter their email address and password in the respective fields. 3. The User then clicks on the Log In button to login into their user account. 4. The System will verify the login credentials (email address and password) provided with the database. 5. If the email address and password entered are correct and verified, the User will be directed to their account on the My Hiking Profile page.
Alternative Flows	<p><u>AF-S3: The user did not fill up all the fields.</u></p> <ol style="list-style-type: none"> 1. The System will display a pop-up message “Login Unsuccessful” and an error message “Email/Password is required” above the respective field, prompting the User to fill in all required fields. 2. The System will return to Step 2 and wait for the user to fill all the fields appropriately. <p><u>AF-S4: The user has entered an incorrect email address or password.</u></p> <ol style="list-style-type: none"> 1. The System will display a pop-up message “Login Unsuccessful” and an error message “Email/Password is invalid. Please try again.” above the respective field. 2. The System will return to Step 2 and wait for the user to correct the fields appropriately
Exceptions	<p><u>EX-1: The user has entered an incorrect email address and password more than 3 times.</u></p> <ol style="list-style-type: none"> 1. After 3 attempts, the System will display the message “Please try again after 10 minutes.” 2. The System will return to Step 2 after 10 minutes elapses. <p><u>EX-2 : The user has forgotten their email address or password.</u></p> <ol style="list-style-type: none"> 1. The User may click on the Forgot Password button that is situated below the Sign In button. 2. The User may then recover his/her account using the extended use case <i>Recover Account</i>.

	<u>EX-3: The user does not have an account.</u> <ol style="list-style-type: none">1. The User may click on the Sign Up button.2. The User may then create a new account using the extended use case <i>Register Page</i>.
Extends	None
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	003		
Use Case Name:	RecoverAccount		
Created By:	Brendan	Last Updated By:	Brendan
Date Created:	1 February 2024	Date Last Updated:	1 February 2024

Actor	User (Initiating Actor), System
Description	The Users who have forgotten and/or lost their password may request to recover their account..
Preconditions	<ol style="list-style-type: none"> 1. The User must have a user account prior to recovery. 2. The User must have a valid email address that is linked to their user account.
Postconditions	<p>The System has successfully issued an account recovery email to the User's email address.</p> <p>OR</p> <p>The User is notified of the reason(s) why the recovery of the account is unsuccessful.</p>
Priority	High
Frequency of Use	Low
Flow of Events	<ol style="list-style-type: none"> 1. On the landing page, the User clicks on the "Login" button and the System directs the User to the login page. 2. The System prompts the User to enter their username and password to login. 3. If the User has forgotten their password, they may click on the

	<p>Forgot Password button.</p> <ol style="list-style-type: none"> The System opens the <i>Recover Account</i> pop-up modal and prompts the User to type in a valid email address. The User inputs a valid email address linked to their user account in the displayed field. The User clicks on the Reset Password button. The System sends a request to the Database and checks if the email address exists. Upon verification, the System sends a recovery email to the corresponding email address. The System informs the User that a recovery email has been sent successfully to their email address via a pop-up message “Success! Recovery email has been sent!”
Alternative Flows	<p><u>AF-S7: The email address does not exist in the database.</u></p> <ol style="list-style-type: none"> The System displays a pop-up message that informs the User that the email address does not exist in the database and prompts them to try again. The System returns to Step 5 and waits for the User to enter a valid email address.
Exceptions	N/A
Extends	Login
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	004		
Use Case Name:	ViewProfile		
Created By:	Jeannie Wong	Last Updated By:	Jeannie Wong
Date Created:	4 February 2024	Date Last Updated:	6 February 2024

Actor	User (Initiating Actor), System
Description	The User should be able to view the contents of their Hiking Profile, including their hiking statistics, distance traveled, and saved trips.
Preconditions	<ol style="list-style-type: none"> 1. The user must be logged into his/her user account. 2. The user must have a Strava account that is linked to his/her user account.
Postconditions	<p>The System displays the contents of the user's hiking profile on the Hiking Profile page.</p> <p>OR</p> <p>The System notifies the user of the reason(s) why it is unable to display the contents of the user's profile.</p>
Priority	Medium
Frequency of Use	High
Flow of Events	<ol style="list-style-type: none"> 1. From any page, the User clicks on the dropdown menu at the top right hand corner of the page. 2. The system outputs a list of available options. 3. The User clicks on the Profile option.

	4. The system redirects the User to the Hiking Profile page.
Alternative Flows	<p><u>AF-S4: The user has not linked his/her Strava account to his/her user account.</u></p> <ol style="list-style-type: none">1. The System will display the message “Looks like you are not connected to Strava yet.” on the Hiking Profile page.2. The System will prompt the user to link his/her user account to his/her Strava account.3. The User clicks on the Authenticate with Strava button with the extended use case <i>Strava Authentication</i>.
Exceptions	N/A
Extends	None
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	005		
Use Case Name:	ManageProfile		
Created By:	Brendan	Last Updated By:	Brendan
Date Created:	1 February 2024	Date Last Updated:	4 February 2024

Actor	User (Initiating Actor), System
Description	The User should be able to edit and update their Account Settings, including their name and linked Strava account.
Preconditions	The user must be logged into his/her user account.
Postconditions	<p>The User must have successfully updated their account details.</p> <p>OR</p> <p>The User must be informed of the reason why their edits were unsuccessful.</p>
Priority	Low
Frequency of Use	Low
Flow of Events	<ol style="list-style-type: none"> 1. From any page, the User clicks on the dropdown menu at the top right hand corner of the page. 2. The system outputs a list of available options. 3. The User clicks on the Settings option. 4. The system redirects the User to the Account Settings page. 5. The User clicks on the “Edit” button to change their name and/or

	<p>the “Unlink” button to unlink their Strava profile.</p> <ol style="list-style-type: none"> After performing a change, the User clicks on the “Save” button. The System sends an update request to the database to update the User’s profile records accordingly. The System displays a pop-up message “Changes saved!”, informing the User of the successful operation.
Alternative Flows	<p><u>AF-S6: The user entered a name that contains invalid characters (numbers, special symbols)</u></p> <ol style="list-style-type: none"> The system will display an error message “Name is invalid” above the name field. The system will return to Step 5. <p><u>AF-S6: The user does not enter a name.</u></p> <ol style="list-style-type: none"> The system will display an error message “Name is required” above the respective field. The system will return to Step 5.
Exceptions	<p><u>EX-1: The database was not updated successfully after the User edits their account details.</u></p> <ol style="list-style-type: none"> The system displays a pop-up message informing the User of the unsuccessful operation. The system returns to the Account Settings page.
Includes	ChangePassword
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	006		
Use Case Name:	ChangePassword		
Created By:	Jeannie Wong	Last Updated By:	Jeannie Wong
Date Created:	3 February 2024	Date Last Updated:	3 February 2024

Actor	User (Initiating Actor), System
Description	The User must be able to change his/her user account password.
Preconditions	The user must be logged into his/her user account.
Postconditions	The user changes his/her password successfully.
Priority	Medium
Frequency of Use	Medium
Flow of Events	<ol style="list-style-type: none"> 1. From any page, the User clicks on the dropdown menu at the top right hand corner of the page. 2. The system outputs a list of available options. 3. The User clicks on the Settings option. 4. The system redirects the User to the Account Settings page. 5. The User clicks on the Change Password button. 6. The system sends a password reset email to the User's email address. 7. The system displays the pop-up message "The password reset email has been sent to you!".

	<ol style="list-style-type: none">8. The User clicks on the external link in the password reset email.9. The User enters their new password.10. The User clicks “Save”.11. The system sends an update request to the database to update the User’s password.
Alternative Flows	<p><u>AF-S10: The user enters a password that does not satisfy all the requirements.</u></p> <ol style="list-style-type: none">1. The system will display an error message “Password has to be at least 8 characters long” above the password field.2. The system will return to Step 9. <p><u>AF-S10: The user does not enter a password.</u></p> <ol style="list-style-type: none">1. The system will display an error message “Password is required” above the password field.2. The system will return to Step 9.
Exceptions	N/A
Extends	N/A
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	007		
Use Case Name:	SearchTrail		
Created By:	Jeannie Wong	Last Updated By:	Jeannie Wong
Date Created:	3 February 2024	Date Last Updated:	6 February 2024

Actor	User (Initiating Actor), System
Description	The application displays a list of nature trails for the User to browse.
Preconditions	None
Postconditions	The system must display a list of available nature trails for users to consider hiking in Singapore.
Priority	Low
Frequency of Use	High
Flow of Events	<ol style="list-style-type: none"> 1. From any page, the User clicks on the Trails button from the standard buttons. 2. The User will be redirected to the Trails page. 3. The system fetches the title and image data for the nature trails from the database. 4. The system programmatically renders the Trails page and populates it with the list of nature trails.
Alternative Flows	N/A

Exceptions	N/A
Extends	N/A
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	008		
Use Case Name:	ViewTrail		
Created By:	Jeannie Wong	Last Updated By:	Jeannie Wong
Date Created:	3 February 2024	Date Last Updated:	3 February 2024

Actor	User (Initiating Actor), System
Description	The User may click on a trail, and the application will display the information for the selected trail. This information includes a description, the location (address and bearings) of the trail, and user ratings retrieved via TripAdvisor.
Preconditions	The User must be on the Trails page to select the trail.
Postconditions	The system displays the information for the trail that the user has clicked on in a new page.
Priority	Low
Frequency of Use	High
Flow of Events	<ol style="list-style-type: none"> 1. From the Trails page, the User clicks on their preferred trail from the list of nature trails displayed. 2. The User will be redirected to the Trail Information page for that selected nature trail. 3. The system fetches the required information associated with that nature trail from the database and via the TripAdvisor API. 4. The system programmatically renders the Trail Information page and populates it with the fetched data.

Alternative Flows	N/A
Exceptions	N/A
Extends	N/A
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	009		
Use Case Name:	SearchEvent		
Created By:	Brendan	Last Updated By:	Brendan
Date Created:	3 February 2024	Date Last Updated:	3 February 2024

Actor	User (Initiating Actor), System
Description	The application displays a list of community events for the User to browse and participate in.
Preconditions	The User must be logged into their account to access this feature.
Postconditions	The system must display a list of available hiking events for users to consider joining.
Priority	Low
Frequency of Use	High
Flow of Events	<ol style="list-style-type: none">1. From any page, the User clicks on the Events button from the standard buttons.2. The User will be redirected to the Events page.3. The system fetches the title and image data for the community events via the Meetup.com API.4. The system programmatically renders the Events page and populates it with the list of community events.

Alternative Flows	N/A
Exceptions	N/A
Extends	N/A
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A

Use Case ID:	010		
Use Case Name:	ViewEvent		
Created By:	Brendan	Last Updated By:	Brendan
Date Created:	3 February 2024	Date Last Updated:	4 February 2024

Actor	User (Initiating Actor), System
Description	The User may click on a community hiking event to view its contents and consider participating.
Preconditions	<ol style="list-style-type: none"> 1. The User must be logged into their account to access this feature. 2. The User must be on the Events page to select an event.
Postconditions	The application redirects the user to an external application page for the selected hiking event.
Priority	Low
Frequency of Use	Medium
Flow of Events	<ol style="list-style-type: none"> 1. From any page, the User clicks on their preferred event from the list of hiking events displayed. 2. The User will be redirected to the community event's external page hosted on Meetup.com.
Alternative Flows	N/A

Exceptions	N/A
Extends	N/A
Special Requirements	N/A
Assumptions	The User has Internet access during this process.
Notes and Issues	N/A