

Key		
Pass	Partial Pass	Fail

Test ID	Scenario	Steps taken
E2E-01	User accessing an available task and submitting an image for that task. Changes are visible in the leaderboard and individual profile.	<ol style="list-style-type: none"> 1. User is able to create an account and log-in. <ol style="list-style-type: none"> a. User types invalid password. b. User types valid password. 2. User navigates to tasks and selects a daily task to complete. 3. User submits an image for the specific task. <ol style="list-style-type: none"> a. Task will a be submitting a vegetarian meal. b. Submits a text file 4. Task submission gets moderated and accepted. 5. User navigates to leaderboard page. <ol style="list-style-type: none"> a. Points are visible. 6. User navigates to individual profile. <ol style="list-style-type: none"> a. Completed task is visible. 7. Calculations on carbon savings are performed and displayed.
Task		Actual Results
User is able to create an account and log-in.		User is able to create a new account and it automatically logs them into their account.
User types invalid password and denied access.		Information inputted by the user is erased from the input boxes and the user is not granted access to their account.
User types valid password and is granted access.		After the login button is pressed, the user accesses their account.
User navigates to task and selects task.		Task tab is visible on the left hand side and they are able to navigate to it and expand a task to reveal all the information.
User submits an image of a vegetarian meal.		The user receives a message and they are sent back to the task screen. They have successfully submitted the evidence.
User submits a text file and it denies the submission with a message.		Submission is denied but message is not abstracted and returns a log-like message.
Task gets moderated and accepted.		User with moderator privileges sees the submitted tasks and accepts them. The task disappears. There is no immediate feedback for approving.
Task gets moderated and denied.		User with moderator privileges sees the submitted tasks and denies them. The task disappears. There is no immediate feedback for denying.

User navigates to leaderboard page.	User is able to see the leaderboard tab on the left and is able to navigate to it.
User and total points are visible on the leaderboard page.	User Davi is able to see their name on the leaderboard and see that they have gained the points from the accepted task.
User navigates to individual profile.	User is able to see and navigate to the profile tab on the left.
Completed tasks are visible on user profile.	Profile tab does not show the user's completed tasks.
Calculations of carbon savings are performed and displayed.	Carbon savings are displayed on each individual task, but no calculations are displayed. Travel tab shows calculations for points based on distance travelled and mode of transport but does not display carbon savings.

1. Sign up and login

a. Screenshot:

When user and password are empty, the information is logged:

```
2026-02-18T17:15:32.692Z [INFO] 194422 --- [nio-8080-exec-9] com.carbon.controller.LoginController : Username or password cannot be empty..
```

User signs up:

FOOTPRINT

Our Purpose

CO2 is the biggest contributor to global warming. It is now or never for us to take actions to reduce our carbon footprint. We want to help sensitise our students and staff about how their daily actions contribute to this issue and how individually they can take steps to reduce their emissions. Each of us matters! Every gram saved by a person adds up when everyone is conscious and doing their best. We hope that this website will help you understand your emissions and motivate you to take these steps for the betterment of all.

There is a list of tasks that can be completed daily and challenges, for those that want to go the extra mile, will be released monthly. You can also participate in groups and compete with each other. A leaderboard will show who is the most green among us and special prizes await them. May the best eco person win!

Redirected into the main page:

The screenshot shows the main dashboard of the FOOTPRINT application. At the top, there's a navigation bar with a logo, the title "FOOTPRINT", a "Points: 0" badge, and a "Log Out" button. Below the navigation is a welcome message "Welcome, TestUser!". On the left, a sidebar titled "Tasks" lists various options: Profile, Leaderboard, Groups, Analytics, Evidence, Settings, and Travel. The main content area is divided into three sections: "Daily Tasks" (listing Eat a vegetarian meal, Walk to campus, Use a reusable coffee cup, Use a reusable water bottle, and Recycle), "Weekly Tasks" (listing Line dry clothes and Borrow a library book), and "Monthly Challenges" (listing Shop second hand clothes, Donate an item, Repair an item, and Purchase 2good2go). The background features a large, faint graphic of a person's footprint.

b. Screenshot:

User enters their login details:

The screenshot shows the login page of the FOOTPRINT application. It features a dark teal header with the "FOOTPRINT" logo. The main area has a light background with a large, faint graphic of a person's footprint. On the left, there's a form for entering login information, including fields for "Username...", "Password...", "First Year" (with dropdown options "First Year" and "Streatham"), and "I consent to data collection following guidelines outlined in legal documents" (with a checkbox). Below the form are two buttons: "SIGN UP" and "LOG IN". To the right of the form, the text "Our Purpose" is displayed in a large, bold font. Below it, a paragraph explains the website's mission: "CO2 is the biggest contributor to global warming, it is now or never for us to take actions to reduce our carbon footprint. We want to help sensitise our students and staff about how their daily actions contribute to this issue and how individually they can take steps to reduce their emissions. Each of us matters! Every gram saved by a person adds up when everyone is conscious and doing their best. We hope that this website will help you understand your emissions and motivate you to take these steps for the betterment of all." Further down, another paragraph describes the features: "There is a list of tasks that can be completed daily and challenges, for those that want to go the extra mile, will be released monthly. You can also participate in groups and compete with each other. A leaderboard will show who is the most green among us and special prizes await them. May the best eco person win!"

User redirected:

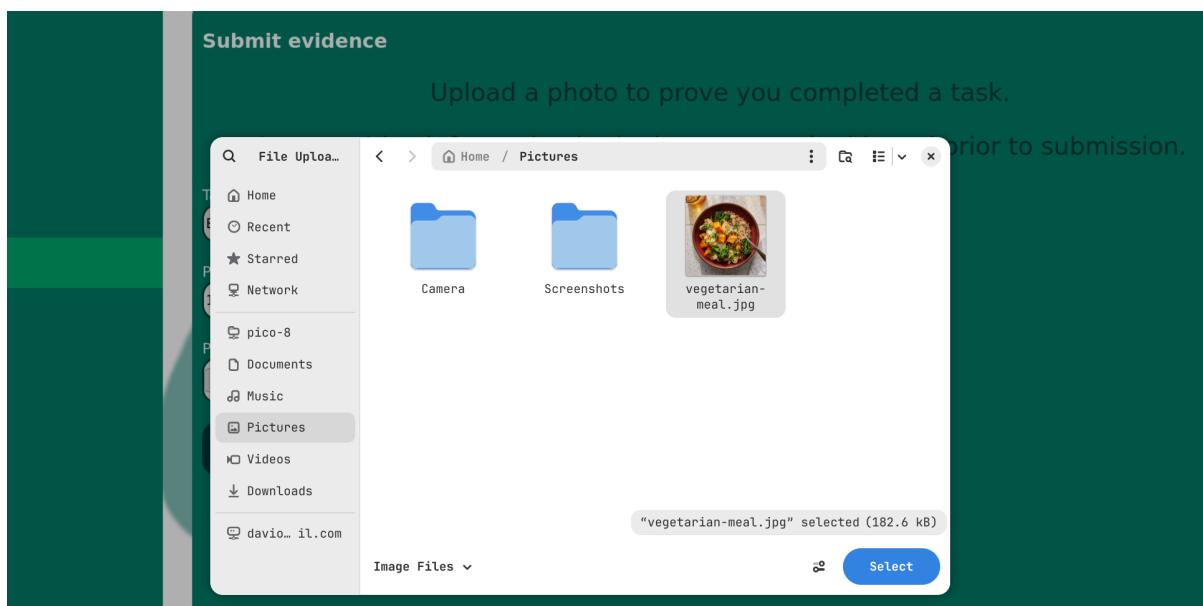
The screenshot shows the main interface of the FOOTPRINT app. At the top, there's a dark green header with a small teal icon of a footprint on the left, the word "FOOTPRINT" in white, a "Points: 0" badge, and a "Log Out" button on the right. Below the header, the greeting "Welcome, Davi!" is displayed. On the far left, a vertical sidebar has a teal header labeled "Tasks" and a list of items: Profile, Leaderboard, Groups, Analytics, Evidence, Settings, and Travel. The main content area is divided into three columns: "Daily Tasks:" (containing "Eat a vegetarian meal", "Walk to campus", "Use a reusable coffee cup", "Use a reusable water bottle", and "Recycle"), "Weekly Tasks:" (containing "Line dry clothes" and "Borrow a library book"), and "Monthly Challenges:" (containing "Shop second hand clothes", "Donate an item", "Repair an item", and "Purchase 2good2go").

2. Navigates to tasks page and selects task to complete
The task “Eat a vegetarian meal” is selected

This screenshot shows the "Daily Tasks" section of the app after the user has selected the "Eat a vegetarian meal" task. The task card now includes additional details: "Have at least one plant-based meal today", "Points: 10", "Carbon Saved: 0.64103 kg CO₂", and "Taxonomy: Food". There is also a new button labeled "Add Evidence". The other tasks in the daily list remain the same: "Walk to campus", "Use a reusable coffee cup", "Use a reusable water bottle", and "Recycle". The rest of the app interface, including the sidebar and other sections, remains unchanged.

User redirected:

The screenshot shows the FOOTPRINT application interface. On the left is a sidebar with a green header containing a footprint icon and the word "FOOTPRINT". Below the header are several menu items: Tasks, Profile, Leaderboard, Groups, Analytics, Evidence (which is highlighted in green), and Settings. The main content area has a dark teal background. At the top center, it says "FOOTPRINT". In the top right corner is a "Log Out" button. The central part of the screen is titled "Submit evidence" and contains instructions: "Upload a photo to prove you completed a task." and "Any sensitive information in the image must be blurred prior to submission." Below these instructions are input fields: "Task title" (containing "Eat a vegetarian meal"), "Points" (containing "10"), and a "Photo evidence" field with a "Browse..." button and the message "No file selected.". At the bottom is a large blue "Submit evidence" button.



Screenshot of moderator accessing hidden tab for the submissions:

3. Submitting

a. Picture

The screenshot shows the FOOTPRINT application interface. On the left is a vertical navigation bar with options: Tasks, Profile, Leaderboard, Groups, Analytics, Evidence (which is highlighted in green), and Settings. The main content area has a dark teal background. At the top center is the word "FOOTPRINT". In the top right corner is a "Log Out" button. Below the title, the heading "Submit evidence" is displayed. A sub-instruction "Upload a photo to prove you completed a task." is shown, followed by a note: "Any sensitive information in the image must be blurred prior to submission." There are two input fields: "Task title" (with placeholder "Please select a task from the Tasks page") and "Points" (with placeholder "Points"). Below these is a "Photo evidence" section with a "Browse..." button and a message "No file selected.". A large black "Submit evidence" button is centered at the bottom of the form. A success message "Evidence submitted and pending review." is displayed below the button.

b. Text file:

This screenshot shows the same FOOTPRINT application interface as the previous one, but with different input values. The "Task title" field now contains "Eat a vegetarian meal". The "Points" field contains "10". In the "Photo evidence" section, the "Browse..." button is followed by "test.txt". The large black "Submit evidence" button is present at the bottom. Below the button, an error message is displayed:

```
{"timestamp":"2026-02-18T17:29:26.469+00:00","status":500,"error":"Internal Server Error","path":"/api/evidence"}
```

4. Tasks gets moderated and, approved and denied
On moderator account with credentials (Username: Ben, Password: 123):

The screenshot shows the FOOTPRINT application's moderation interface. On the left is a sidebar with a green footer bar containing the word "Evidence". The main area is titled "FOOTPRINT" and has a "Log Out" button in the top right. The central content area is titled "Tasks to approve:" and contains a table with two rows of data. Each row includes columns for User (Davi), Date (18/02/2026, 17:26:33 and 18/02/2026, 17:31:13), Task (Eat a vegetarian meal), Evidence (a blue "View" link), and Approval (two buttons: "Approve" in green and "Deny" in red).

User	Date	Task	Evidence	Approval
Davi	18/02/2026, 17:26:33	Eat a vegetarian meal	View	<button>Approve</button> <button>Deny</button>
Davi	18/02/2026, 17:31:13	Eat a vegetarian meal	View	<button>Approve</button> <button>Deny</button>

Moderator approves one submissions and denies one submission.

The screenshot shows the FOOTPRINT application's moderation interface after some actions have been taken. The layout is identical to the previous screenshot, with the sidebar, main title, and log out button. The central content area is titled "Tasks to approve:" and contains a message: "No pending evidence."

5. Leaderboard display

User Davi has 10 points:

The screenshot shows the FOOTPRINT application interface. The left sidebar has a dark teal background with white text links: Tasks, Profile, Leaderboard (which is highlighted in green), Groups, Analytics, Evidence, Settings, and Travel. The main content area has a dark teal header with the word "FOOTPRINT" in white. In the top right corner of the header is a "Log Out" button. Below the header is a white rectangular box titled "Leaderboard". Inside this box is a table with two columns: "User" and "Points". The data in the table is as follows:

User	Points
Bob	85
Ben	80
Abon	50
Casper	50
Steve	30
Abot	25
Mark	25
Steve	20
Davi	20
marko	15

6. Individual profile is displayed

Tasks and points are not displayed for the specific user

The screenshot shows the FOOTPRINT application interface. The left sidebar has a dark teal background with white text links: Tasks, Profile (which is highlighted in green), Leaderboard, Groups, Analytics, Evidence, Settings, and Travel. The main content area has a dark teal header with the word "FOOTPRINT" in white. In the top right corner of the header is a "Log Out" button. Below the header is a white rectangular box titled "Tasks Completed:". Inside this box is a table with four columns: "Task name", "Date", "Points", and "Approval". The data in the table is as follows:

Task name	Date	Points	Approval
example name	example date	example points	example approval
example name	example date	example points	example approval
example name	example date	example points	example approval

7. Calculations displayed

The screenshot shows the 'FOOTPRINT' mobile application. The left sidebar is dark teal with white text and icons. It includes links for Tasks, Profile, Leaderboard, Groups, Analytics, Evidence, Settings, and Travel. The 'Travel' link is highlighted with a green bar at the bottom. The main content area has a dark teal background. At the top, it says 'FOOTPRINT' and has a 'Log Out' button. Below that is a section titled 'Enter Travel Info' with two input fields: 'Travel Method' (set to 'Walk') and 'Distance (km)' (set to '5'). A large black button labeled 'Enter Distance' is centered below the inputs.

This screenshot shows the same 'FOOTPRINT' application interface as the previous one, but with additional content in the main area. The 'Enter Travel Info' section remains the same. Below it, a new section titled 'Points Calculation' is displayed. It contains the following information:
Travel Type: walk
Distance: 5.0 km
Points per km: 5
Calculation: $5.0 \text{ km} \times 5 \text{ points/km} = 25 \text{ points}$
Points Earned: 25
Total Points: 35