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**“Integrated Approaches Toward Sustainable Plastics Use and Marine Litter Prevention in Bangladesh”**

# **“Plastic Path Go” - Mobile Application**

**Empowering Sustainable Plastic Use Through Interactive Mobile Technology**



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## Contents & Objectives

### Objectives of the Presentation:

- - About PlasticPath Go
- - Mobile App Purpose
- - User Journey Walkthrough
- - Key Features
- - User Impact
- - Future Vision





## What you will get in Plastic Path Go!

### User Registration

- Simple sign-up/login via email, phone, or social media.
- Users select a role (individual – e.g., student, consumer, volunteer – or organization – e.g., recycler, NGO, business, academic).

### Plastic Mass Index (PMI) Calculator

- Inputs: Household size, frequency of plastic bag use, bottled water, packaged food, etc.
- Outputs: PMI score with color-coded rating (green = low, yellow = medium, red = high).
- Users can track monthly progress.

### Waste Data Reporting

- Waste type selection (bag, bottle, packaging, mixed).
- Photo upload (camera/gallery).
- Geo-tagging (automatic or manual location pin).
- Quantity (weight or count).

### Quizzes & Interactive Learning

- Short, engaging quizzes (3–5 questions).
- Built-in feedback after each question.
- Increases awareness and keeps users returning weekly.

### Events & Campaigns

- Event board showing upcoming cleanups, workshops, and awareness events.
- In-app registration (autofill from profile).
- Push notifications for reminders.



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# Objective of the Mobile Application

## Drive Engagement

Use gamification like quizzes and badges to encourage repeat visits.

## Data Collection

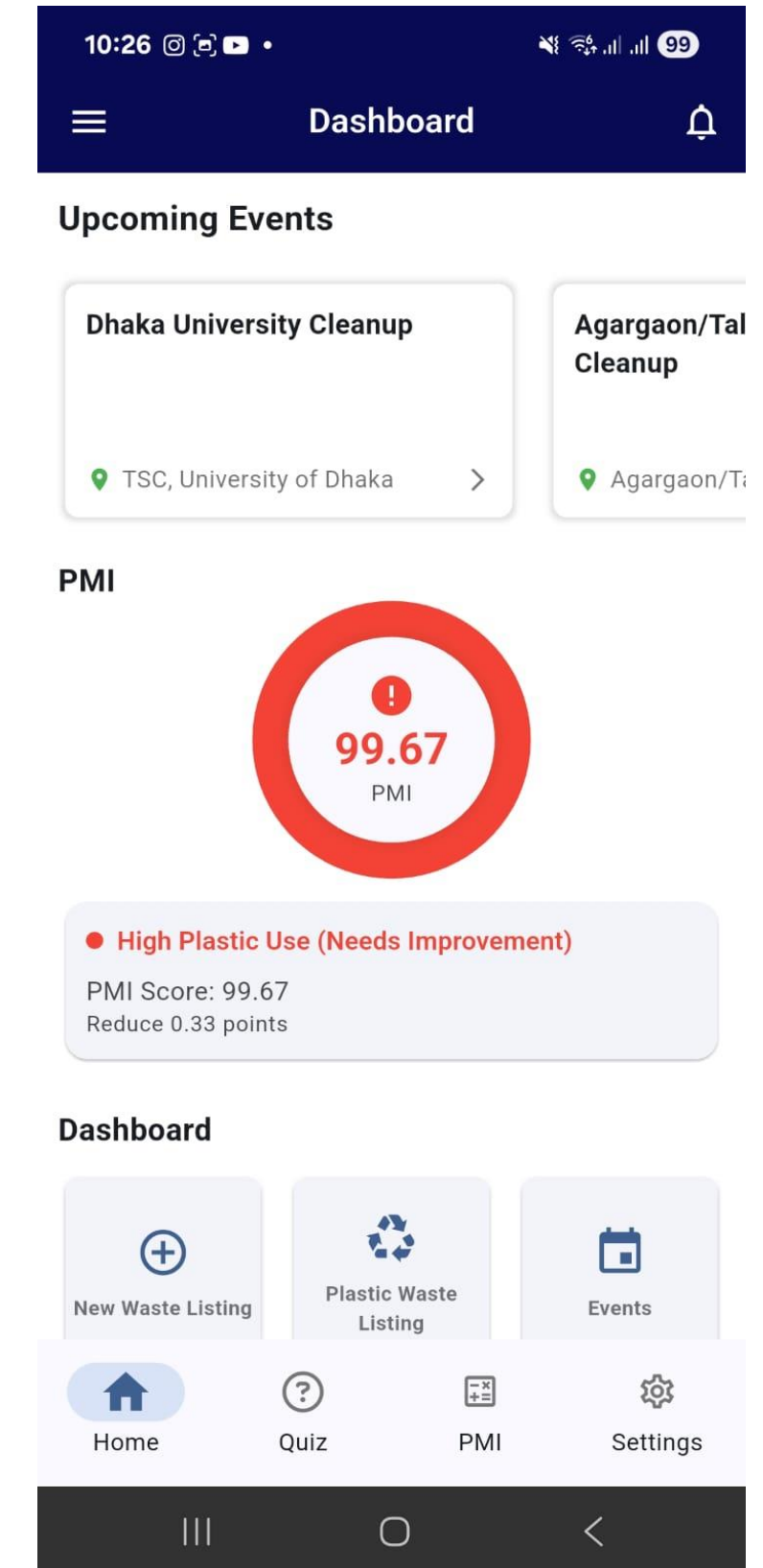
Crowd-source geo-tagged waste reports for national mapping.

## Behavioral Change

Guide users on a "plastic diet" to reduce their personal footprint.

## Sustainable Alternatives

The app suggests eco-friendly replacements for every item tracked.





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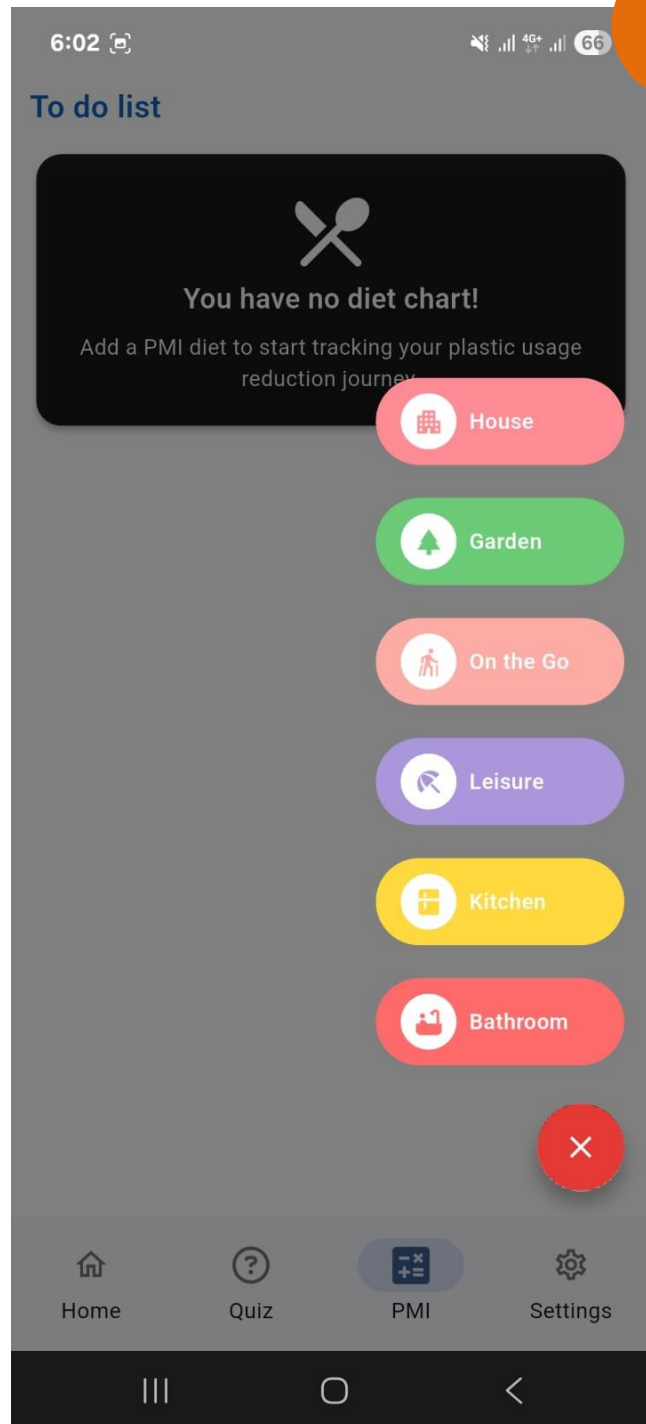
## Key Feature: Plastic Mass Index (PMI)

- **PMI Concept:** The app encourages users to go on a “plastic diet” — i.e. actively reduce usage of plastic items in daily life. User choose areas of life (bathroom, kitchen, travel, leisure, household, garden) and “add” the plastic-based items use, then gradually replace them with sustainable alternatives.
- **Plastic Mass Index (PMI) :** To quantify one’s plastic footprint, the app uses a metric called the Plastic Mass Index (PMI). The PMI is a score from 0 to 100: the closer to zero, the lower your contribution; the closer to 100, the more plastic you are “responsible” for. By following the plastic diet and adopting alternatives, users aim to reduce their PMI over time.
- **Sustainable Alternatives & Item Focus:** The app focuses on everyday plastic items in the main areas of life (bathroom, kitchen, etc.). For each plastic item you “add” to your diet, the app presents a sustainable alternative you can aim to switch to. The goal is not just to avoid plastics, but to replace them with better, more sustainable options.

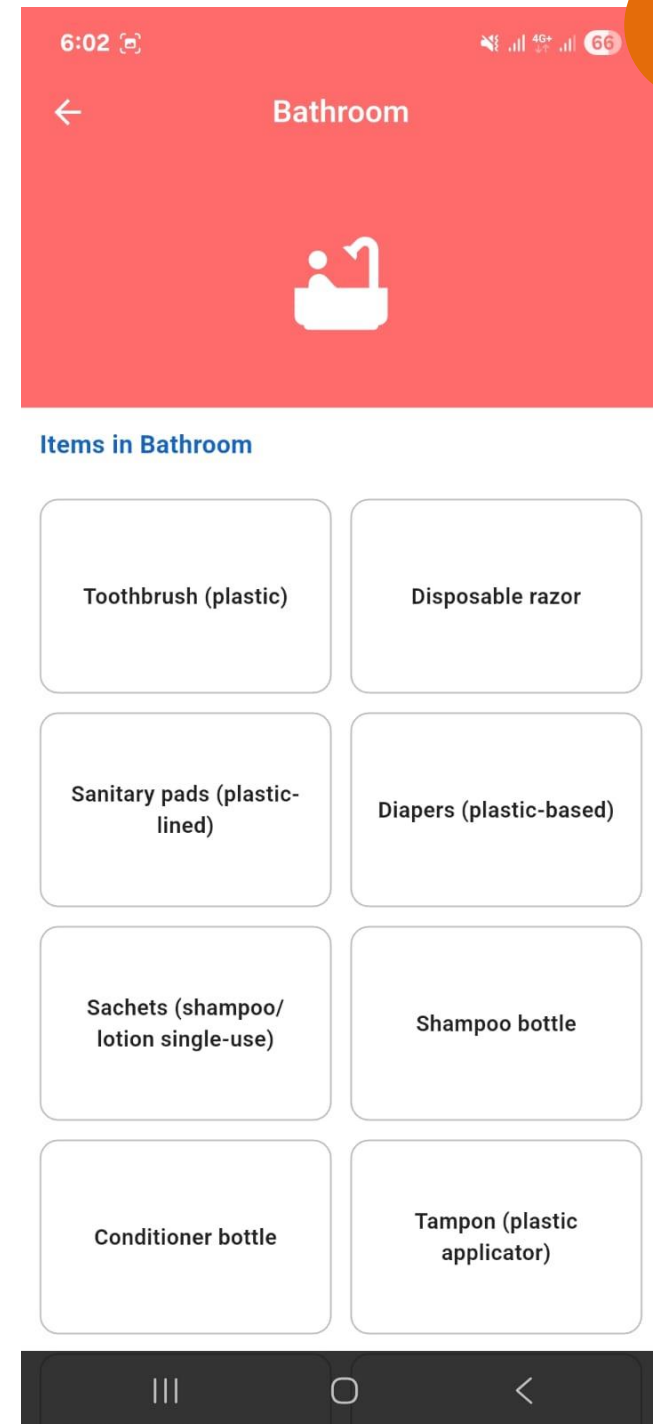


# How PMI is Calculated?

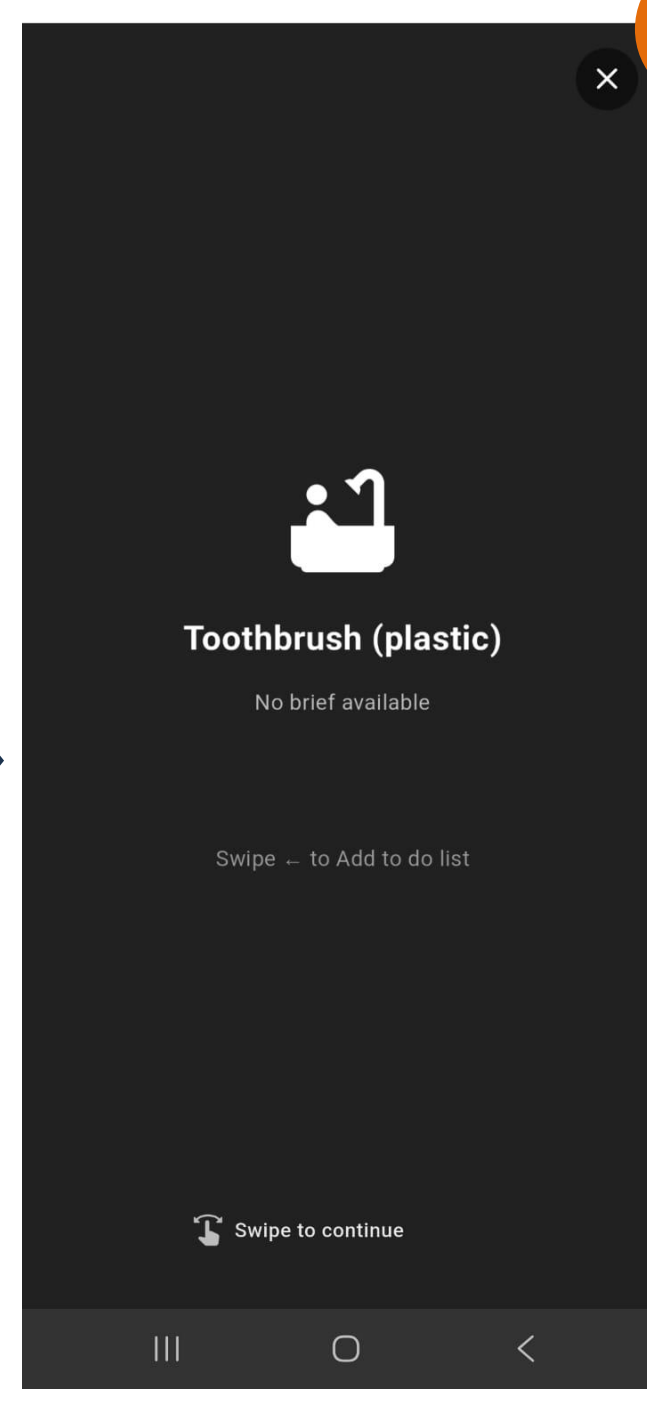
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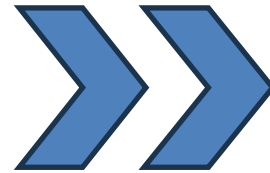
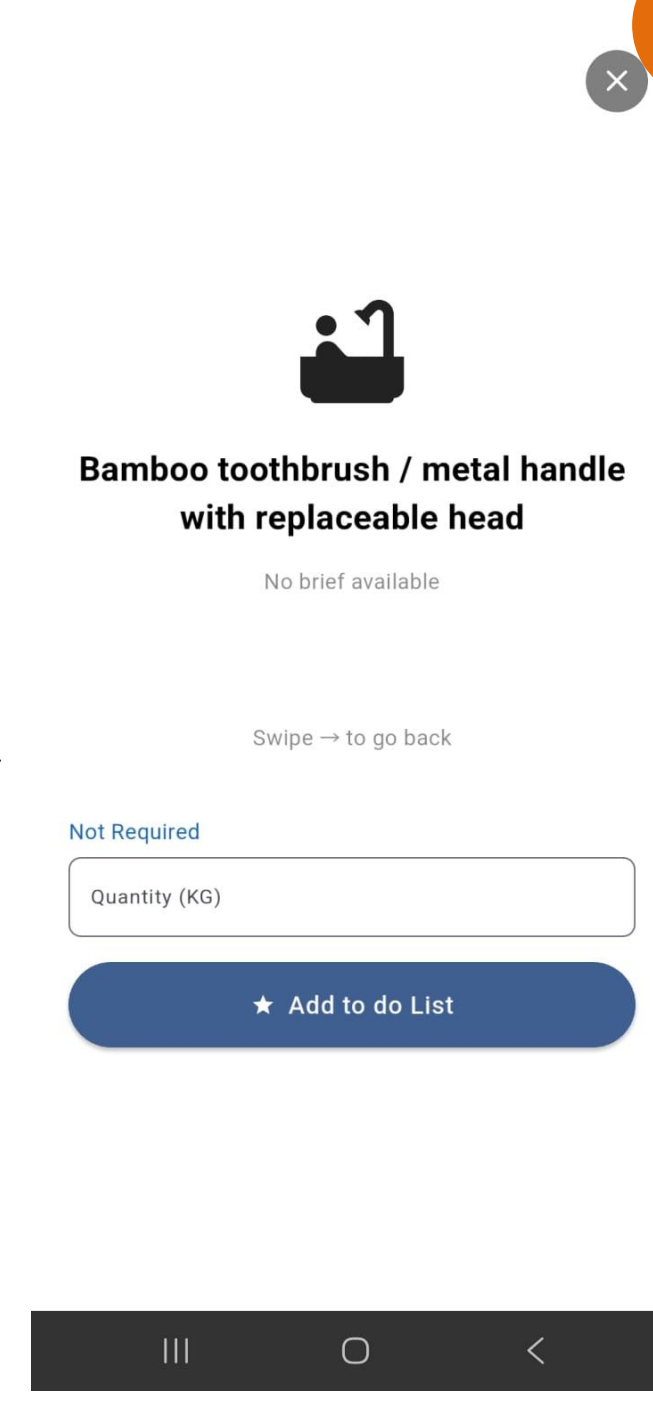
2



3



4





5

6

**Bamboo toothbrush / metal handle with replaceable head**

No Data Found

Swipe → to go back

✓ Mission Accomplished

Remove from To do list



6:03

Dashboard

PMI

98.70  
PMI

High Plastic Use (Needs Improvement)

PMI Score: 98.70  
Reduce 1.30 points

Dashboard

New Waste Listing Plastic Waste Listing Events

Quiz Plastic Waste Collection Data

Home Quiz PMI Settings

For each item, the item's baseline is multiplied by its corresponding **factoral** based on the user's status.

- A minimum effective score of of the item's baseline score is enforced: .
- The effective scores of all tracked items are summed to get .

**Calculate Reduction Percentage ():** The user's total impact is converted to a percentage of the maximum possible impact:

$$\text{reduction} = \text{round} \left( \left( \frac{\text{total\_pmi}}{\text{max\_pmi}} \right) \times 100, 2 \right)$$

**Calculate Final PMI Score ():** The final PMI is an inverse score, representing the user's success in reducing their plastic impact. A lower reduction percentage results in a higher PMI score (closer to 100).

$$\text{pmi\_score} = \text{round}(100 - \text{reduction}, 2)$$



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## App Walkthrough

- Displays the app's logo, app name (**Plastic Path - Turning Waste Into Solutions**), and a relevant tip of the day.





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## User Registration

- Allows a new user to enter their Name and Email Address to begin the account registration process.
- Shows an example of the email received by the user containing the One-Time Password (OTP) for account verification.

The image displays two mobile application screens. The left screen, titled "Verify Your Account", features two input fields: "Name" with the value "Ziaul Sakib" and "Email Address" with the value "developer@promiti.com". Below these fields are two buttons: a blue "Proceed to Register" button and a red "Cancel" button. The right screen shows an email interface for "Plastic Path". The email subject is "Plastic Path OTP Verification". The sender is "Plastic Path" and the recipient is "to me". The email content states: "Your One-Time Password (OTP) is: 790207". It also notes that "The OTP is valid for a duration of 5 min" and instructs the user to "Please use this OTP to complete your login process. Do not share this code with anyone." At the bottom of the email interface are "Reply" and "Forward" buttons.



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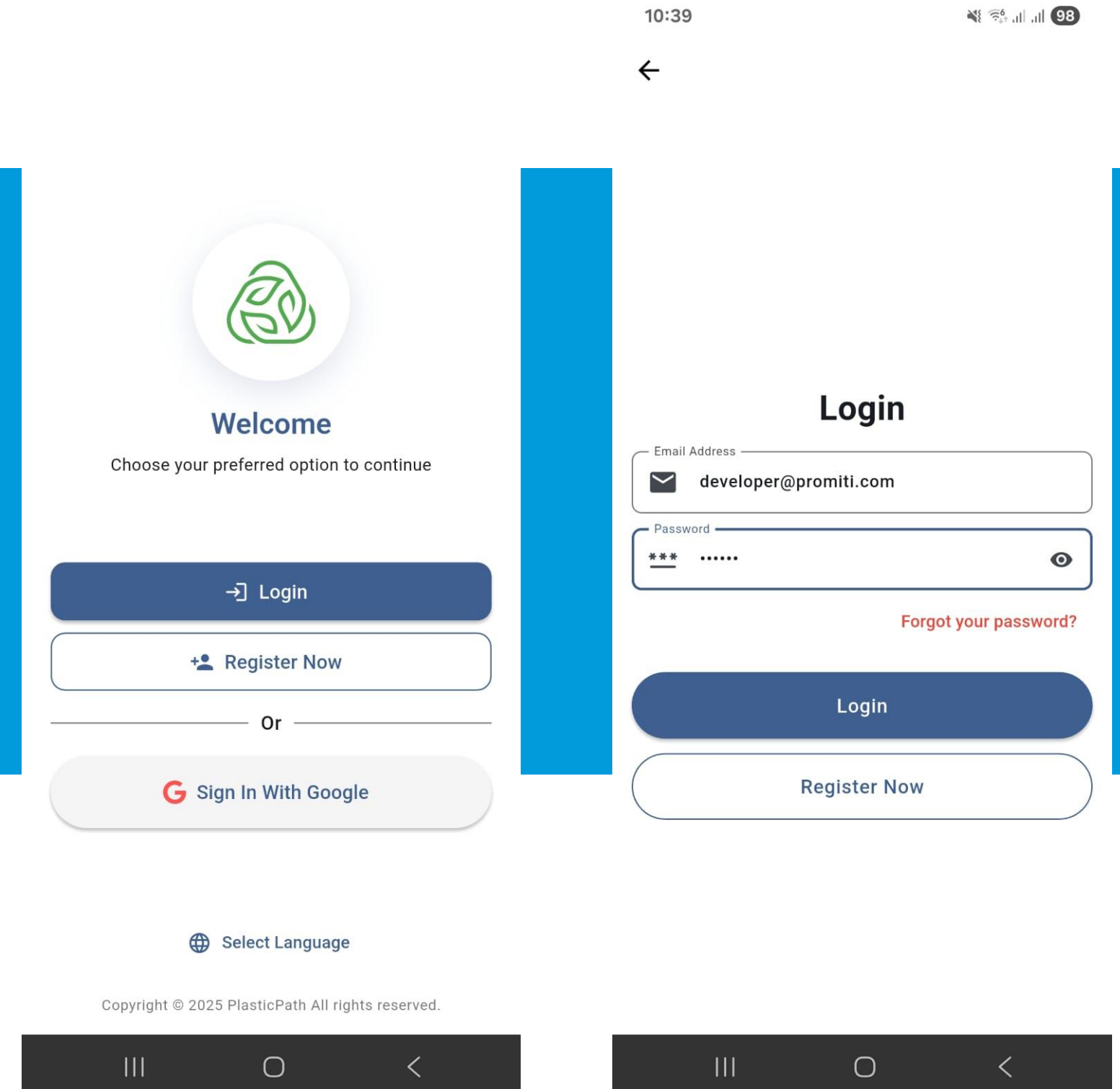


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## User Login

- Presents options for the user to Login, Register Now, or Sign In With Google, serving as the initial entry point after the splash screen.
- Allows users to securely log in using their Email Address and Password, with options to Register Now or use the Forgot your password? feature.





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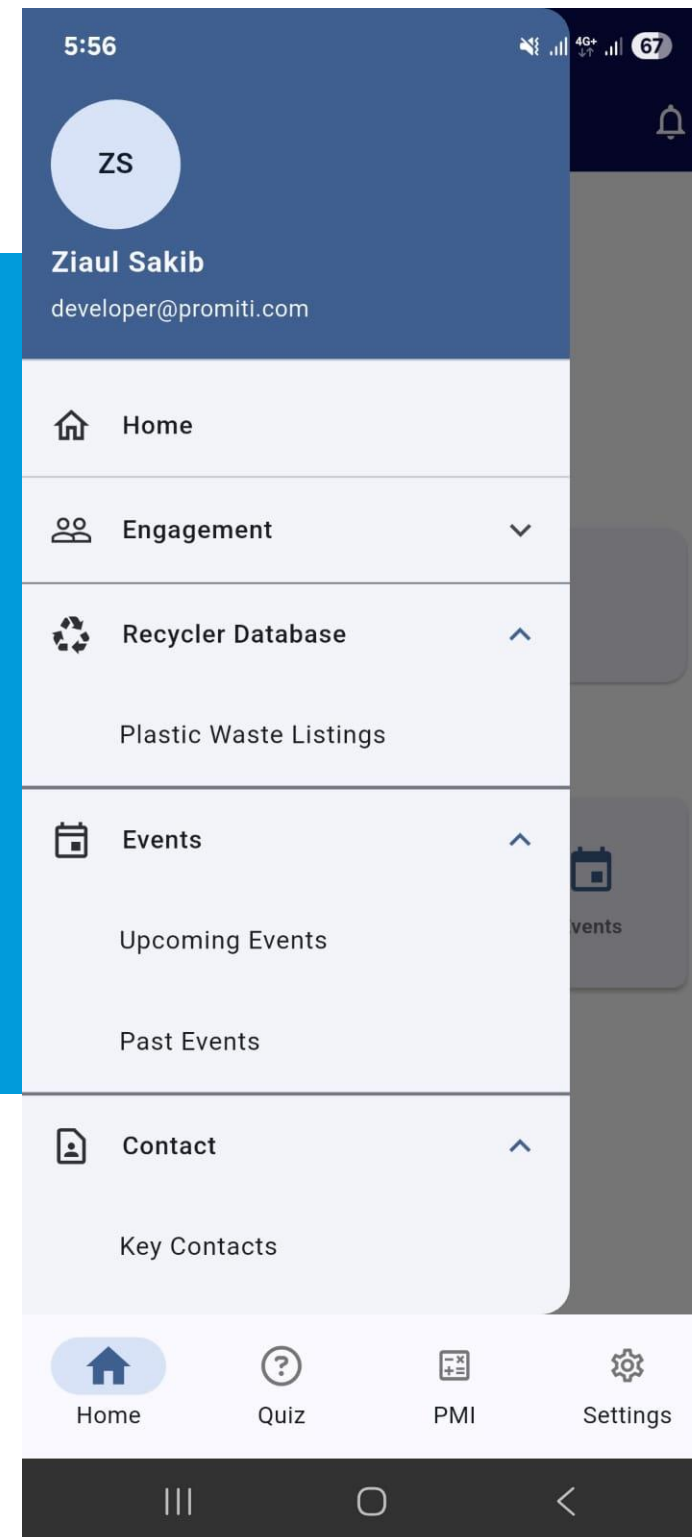
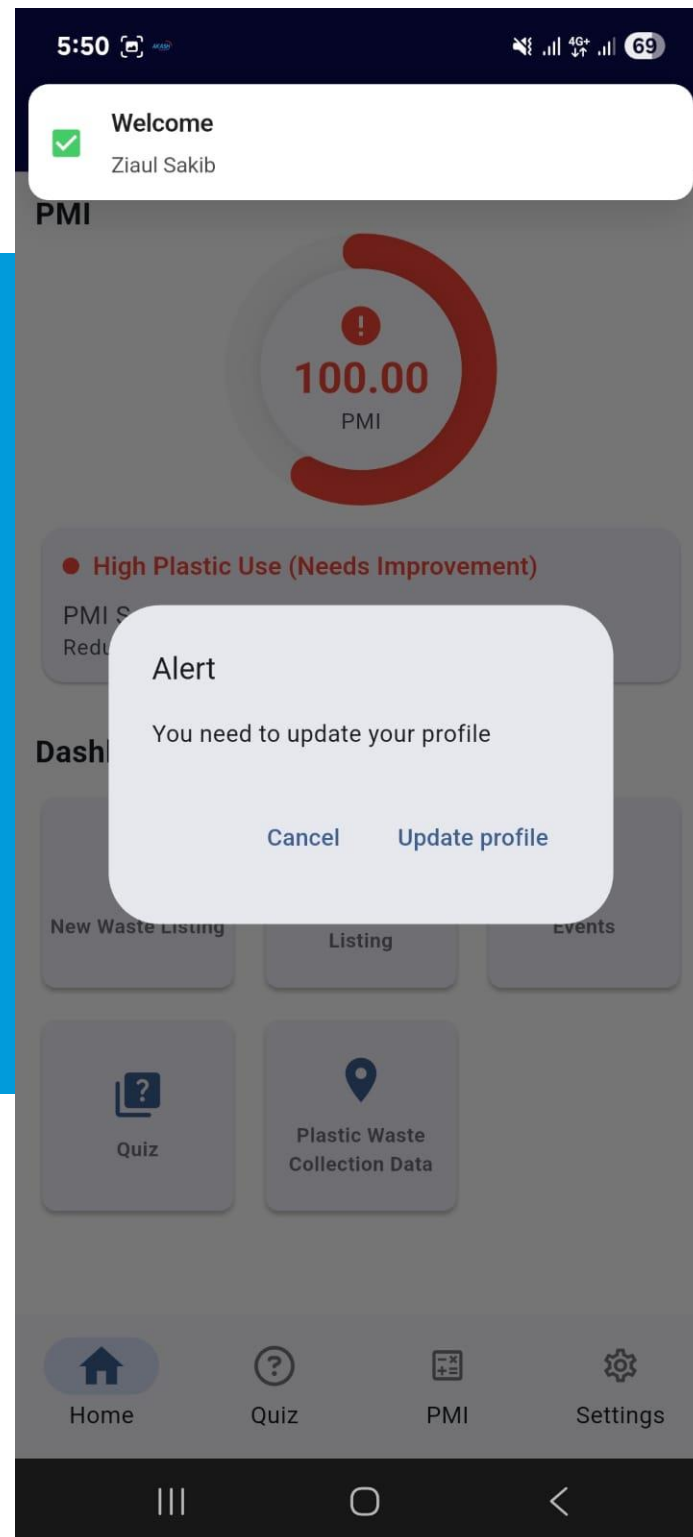


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## App Navigation

- The initial view upon successful login, displaying the user's name and PMI score, and an Alert prompting the user to Update profile.
- Provides access to various application settings, including Notification management, General Settings (Select Language, Change Password), Logout, and Reset options.





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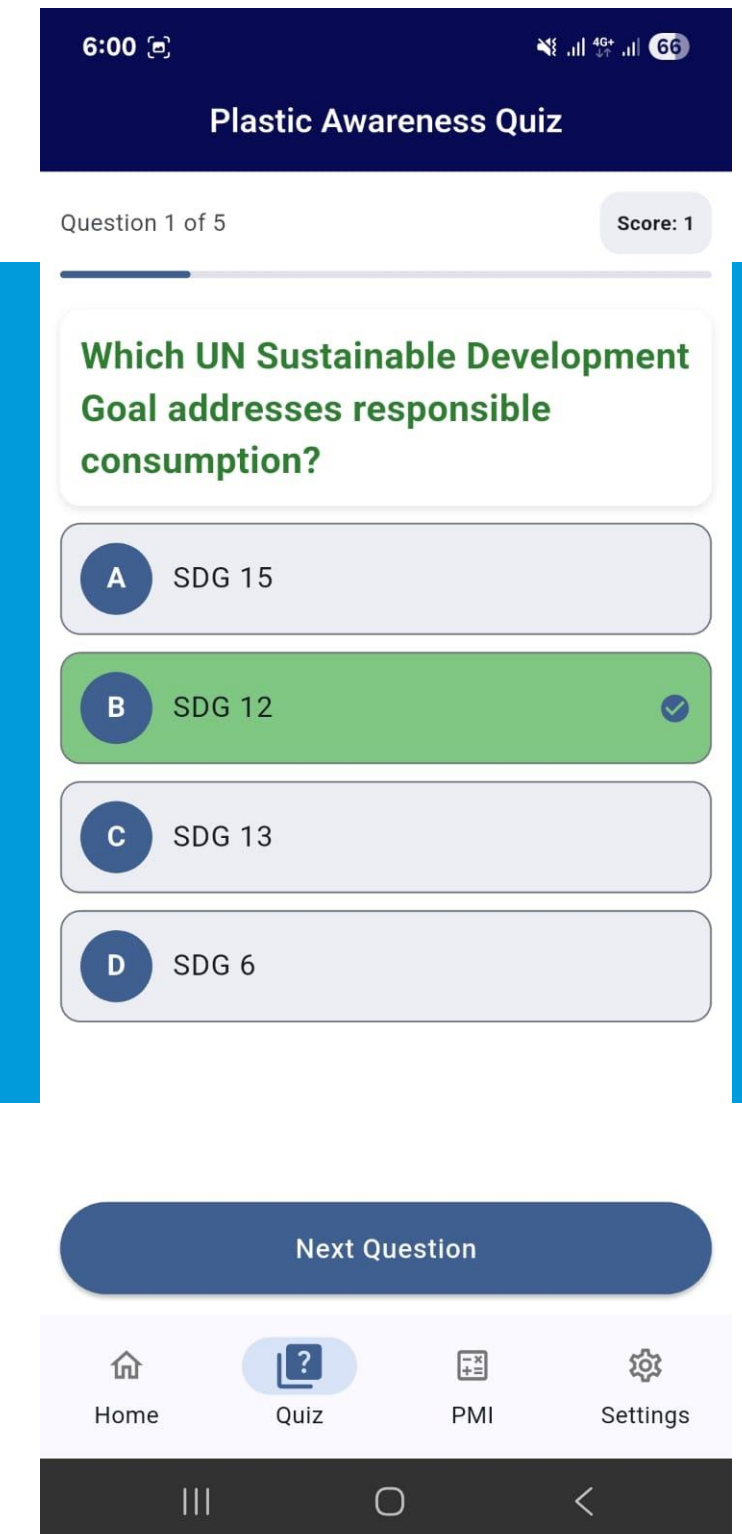
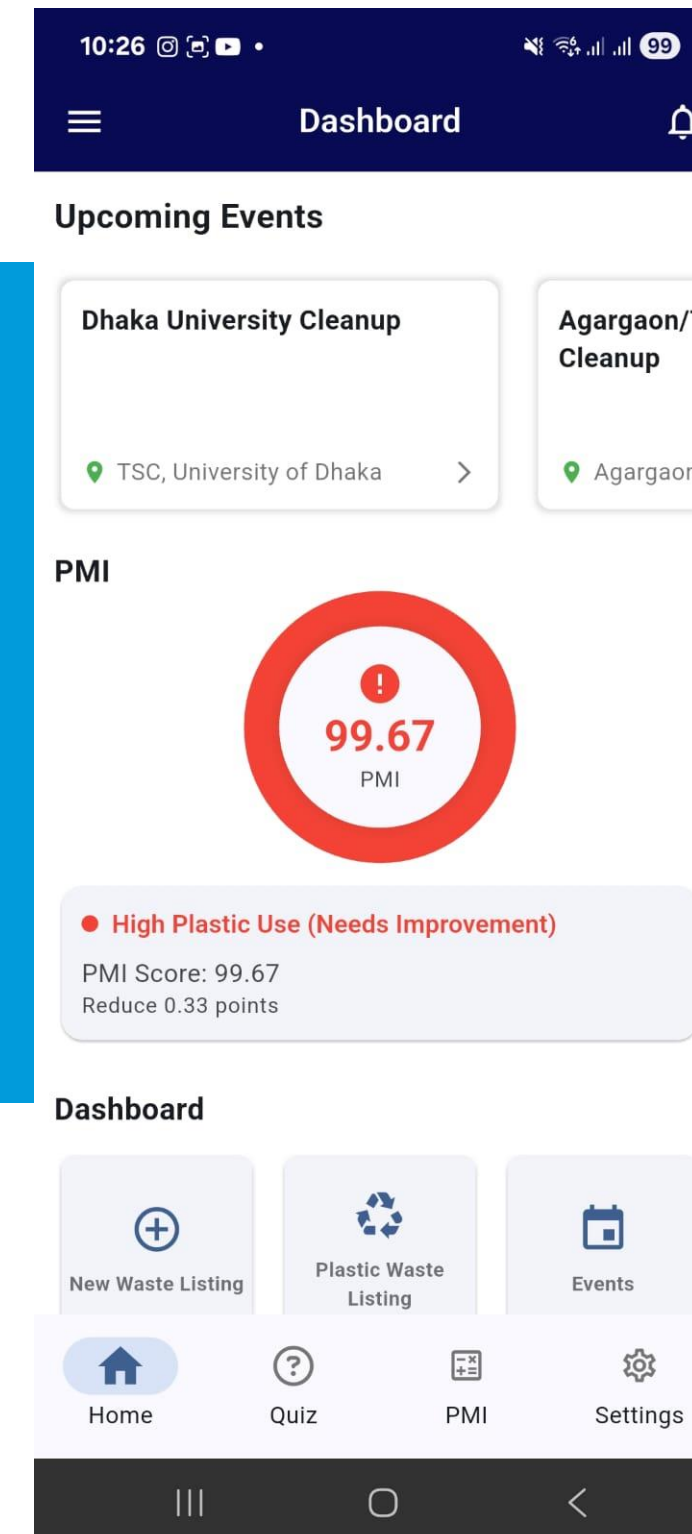


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## Dashboard and Interactive Quiz

- The main Dashboard screen displaying upcoming events, the user's PMI (Plastic Mass Index) score and status, and quick access buttons for New Waste Listing, Plastic Waste Listing, and Events.
- The first screen of the Plastic Awareness Quiz, presenting a multiple-choice question and showing the current score and navigation to the next question.





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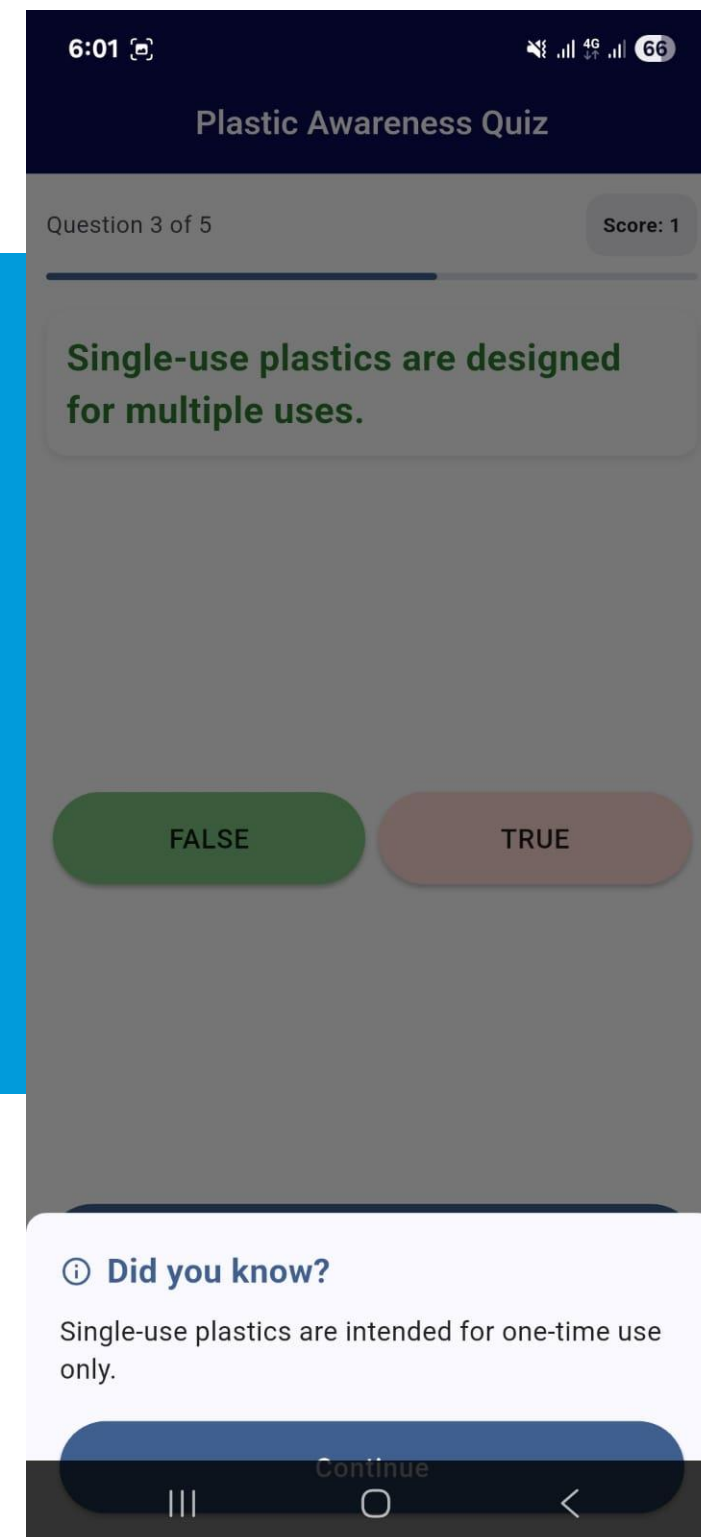
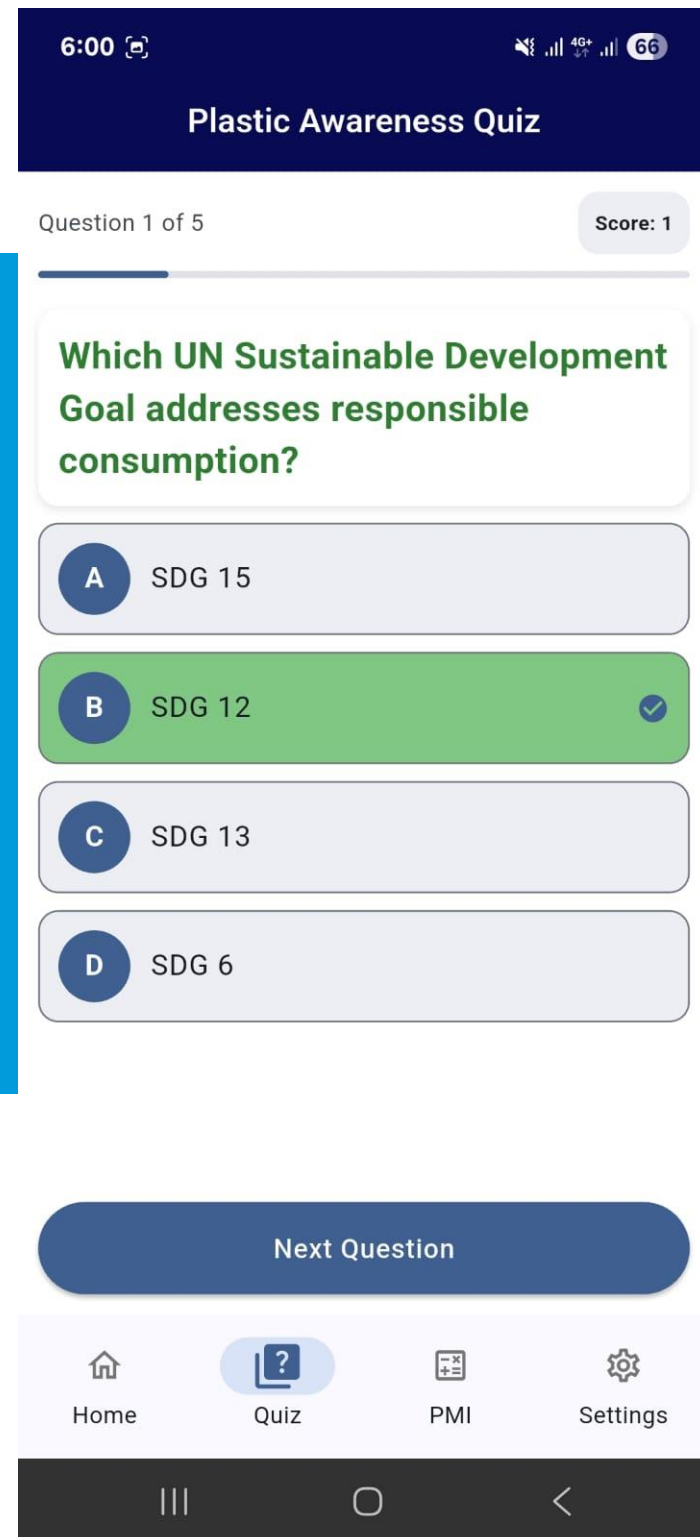


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## Quiz Participation

- The question of the quiz, providing feedback on the selected answer (if answered wrong), and showing a Did you know? An educational pop-up to educate the user on the correct concept.





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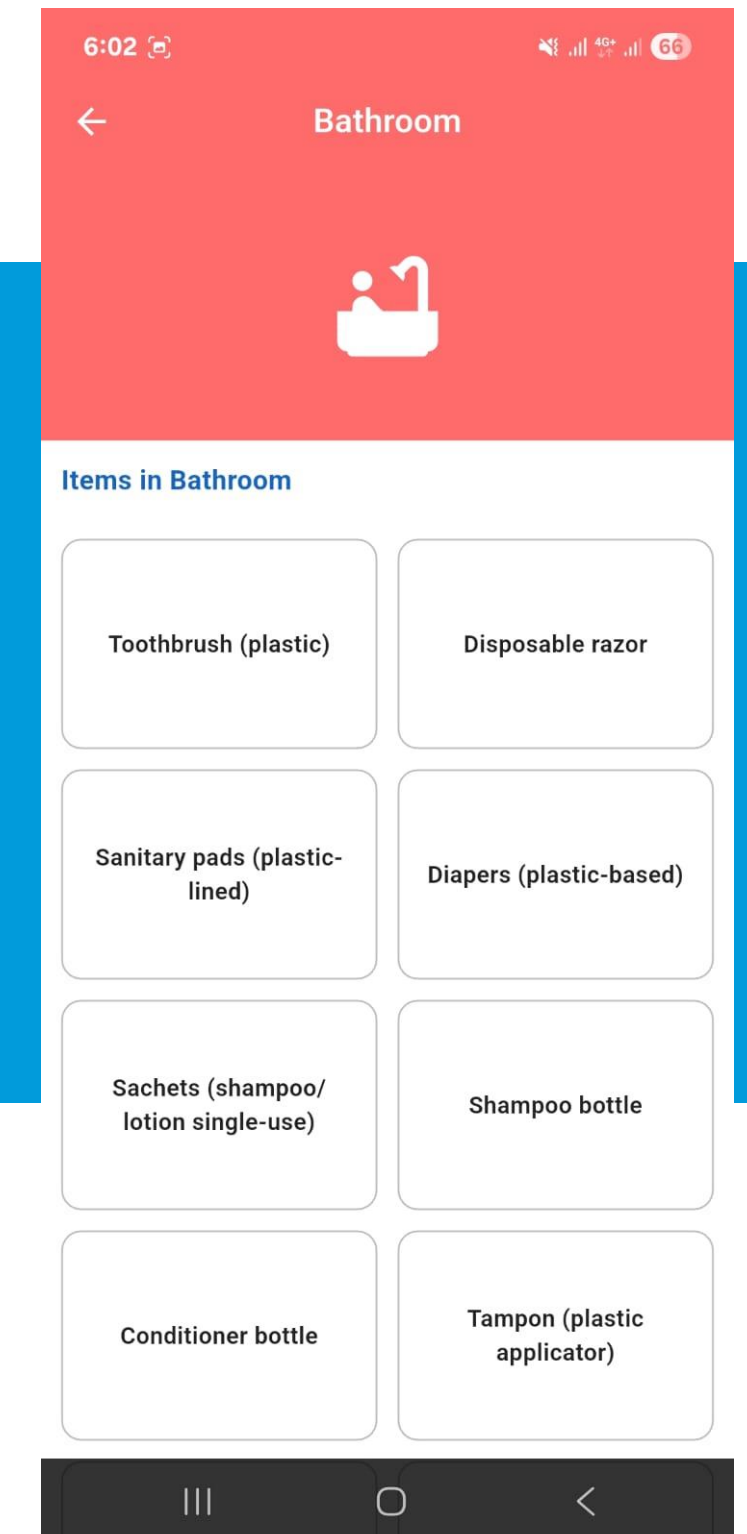
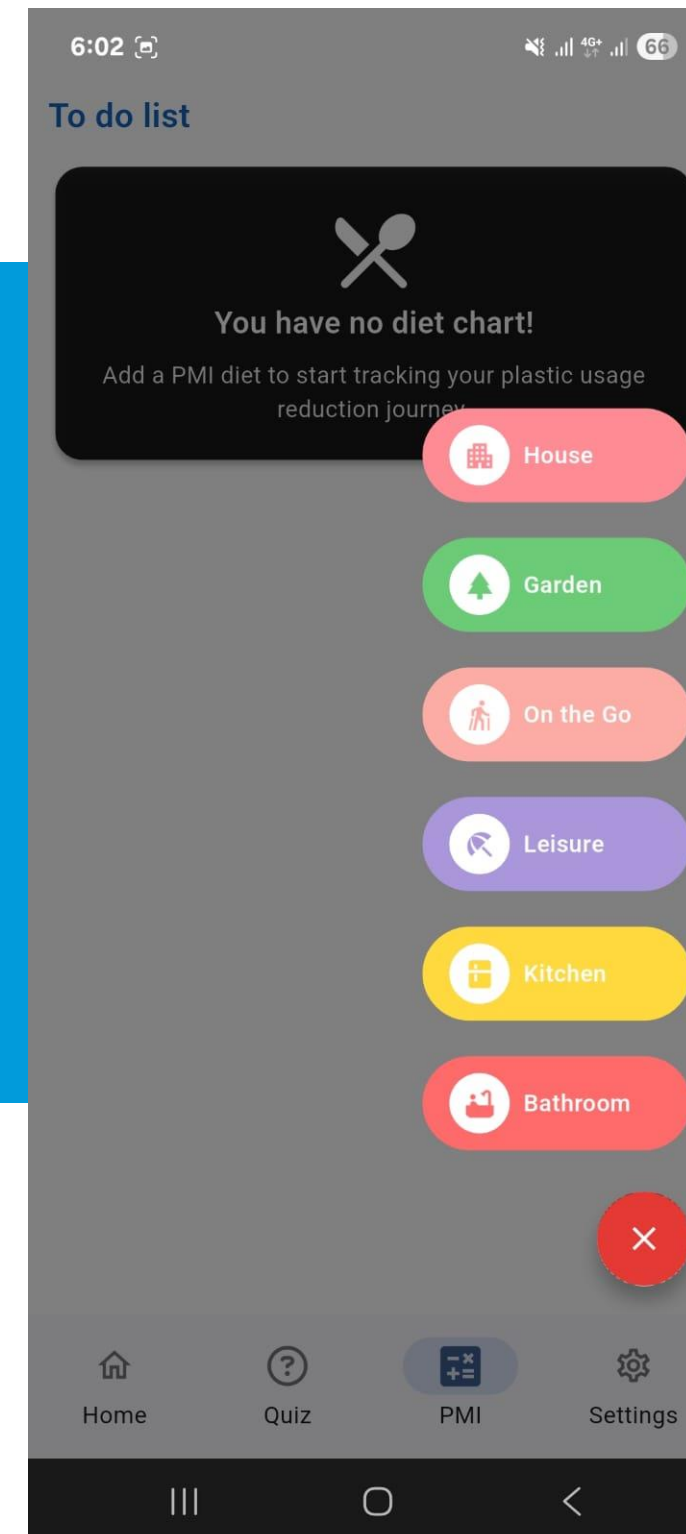


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## Daily Plastic Footprint

- A screen under the PMI section that allows the user to select the Area of their life/environment (House, Garden, On the Go, Leisure, Kitchen, Bathroom) to start tracking plastic usage items.
- Displays a list of common Plastic Items in Bathroom (e.g., Toothbrush, Disposable razor, Shampoo bottle) that the user can select to track their usage.





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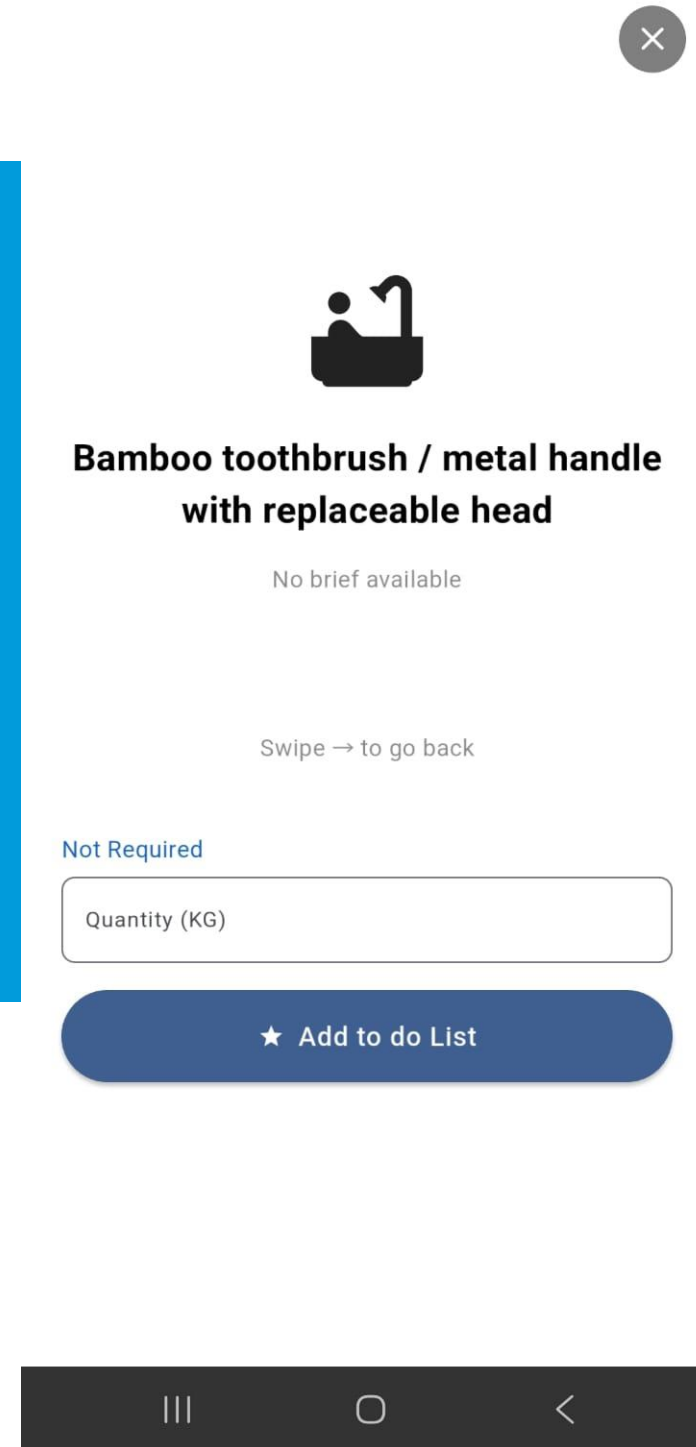
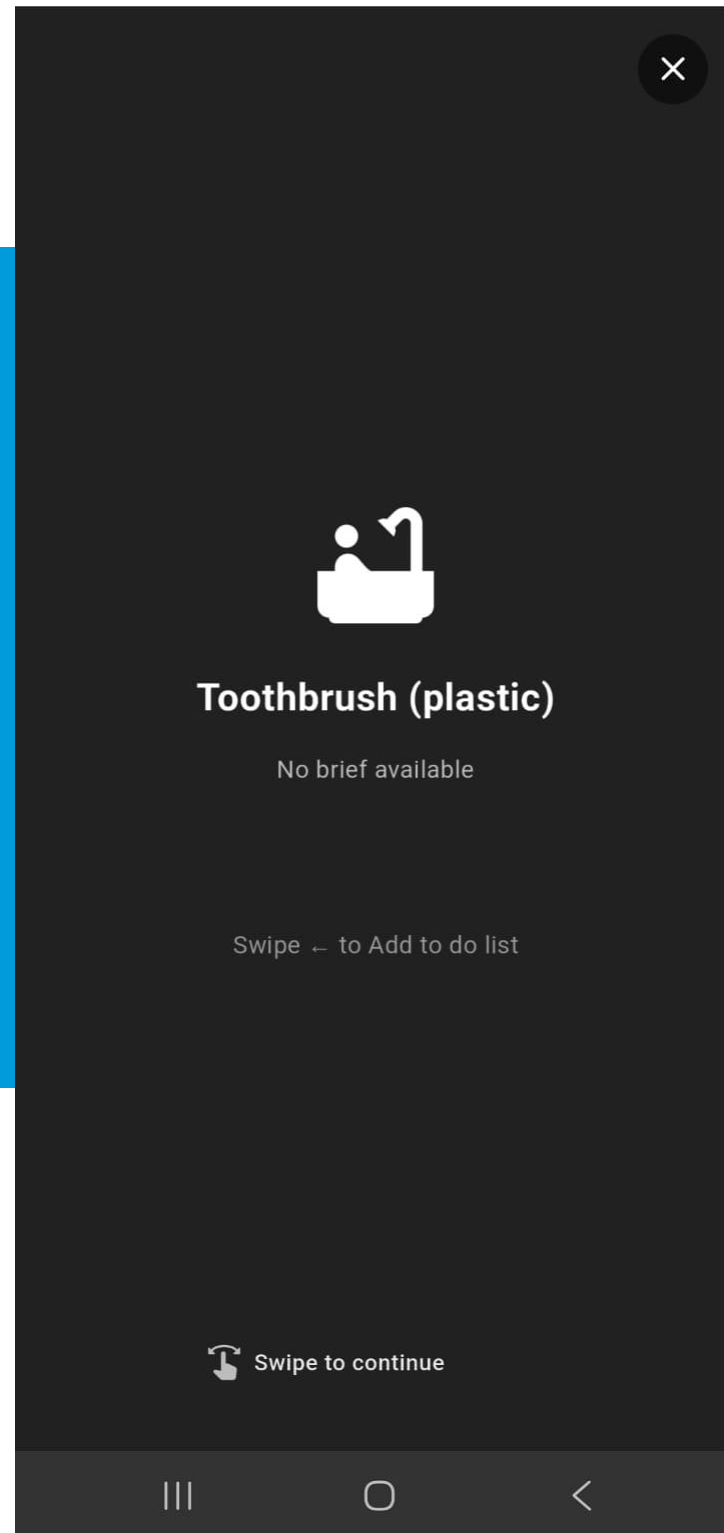


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## Reduction Tracking & Alternative Items

- A detail screen for a specific plastic item (Toothbrush (plastic)) that can be Swiped to Add to do list for reduction tracking
- Displays a potential Alternative to the selected plastic item (Bamboo toothbrush / metal handle with replaceable head), allowing the user to specify a quantity adding it to the To do List or mark it as Using Alternatives.





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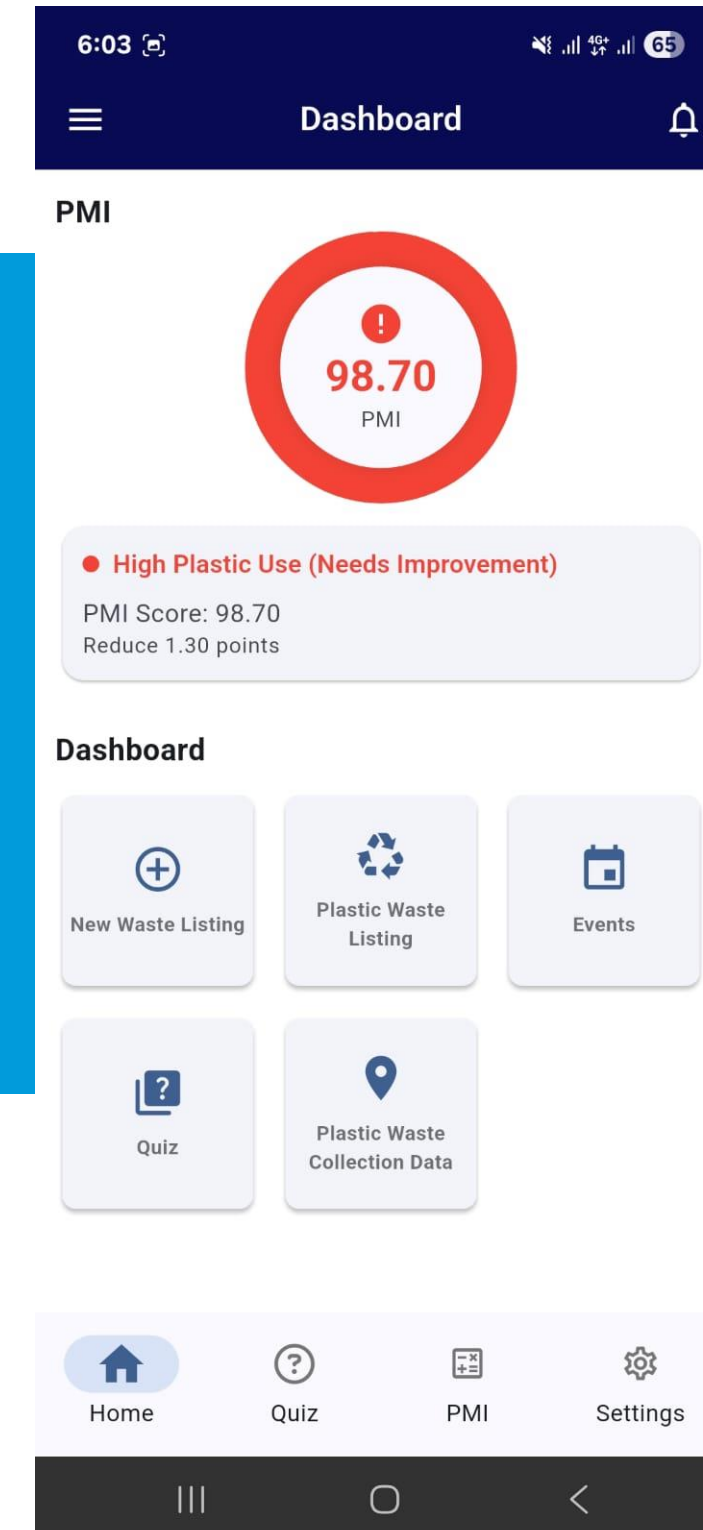


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## Realtime PMI Index

- The Dashboard displaying the updated PMI Score (e.g., 98.70), its status (High Plastic Use (Needs Improvement)),






## Waste Listing

6:04

New Waste Listing



Plastic Type  
Plastic Bag

Quantity  
1 Quantity (KG)

Location  
Shop No.206,Dhaka,Dhaka Division,Bangladesh

Save

- 6:05
- Plastic Waste Listings
- My List All List
- Plastic Bag 1.00 kg
    - Ziaul Sakib
    - 06,Dhaka,Dhaka Division,Bangladesh
    - Volunteer
  - Plastic Bottle 1.00 kg
    - Ziaul Sakib
    - Plaza,Dhaka,Dhaka Division,Bangladesh
    - Volunteer

- The main Events screen, organized into Upcoming and Registered tabs, listing details like event name, location, and date/time for various cleanup events, indicating Registration Required for each.
- A modal displaying detailed information about a selected event (e.g., Karwanbazar Cleanup), including start/end dates, registration status, and a Register link.





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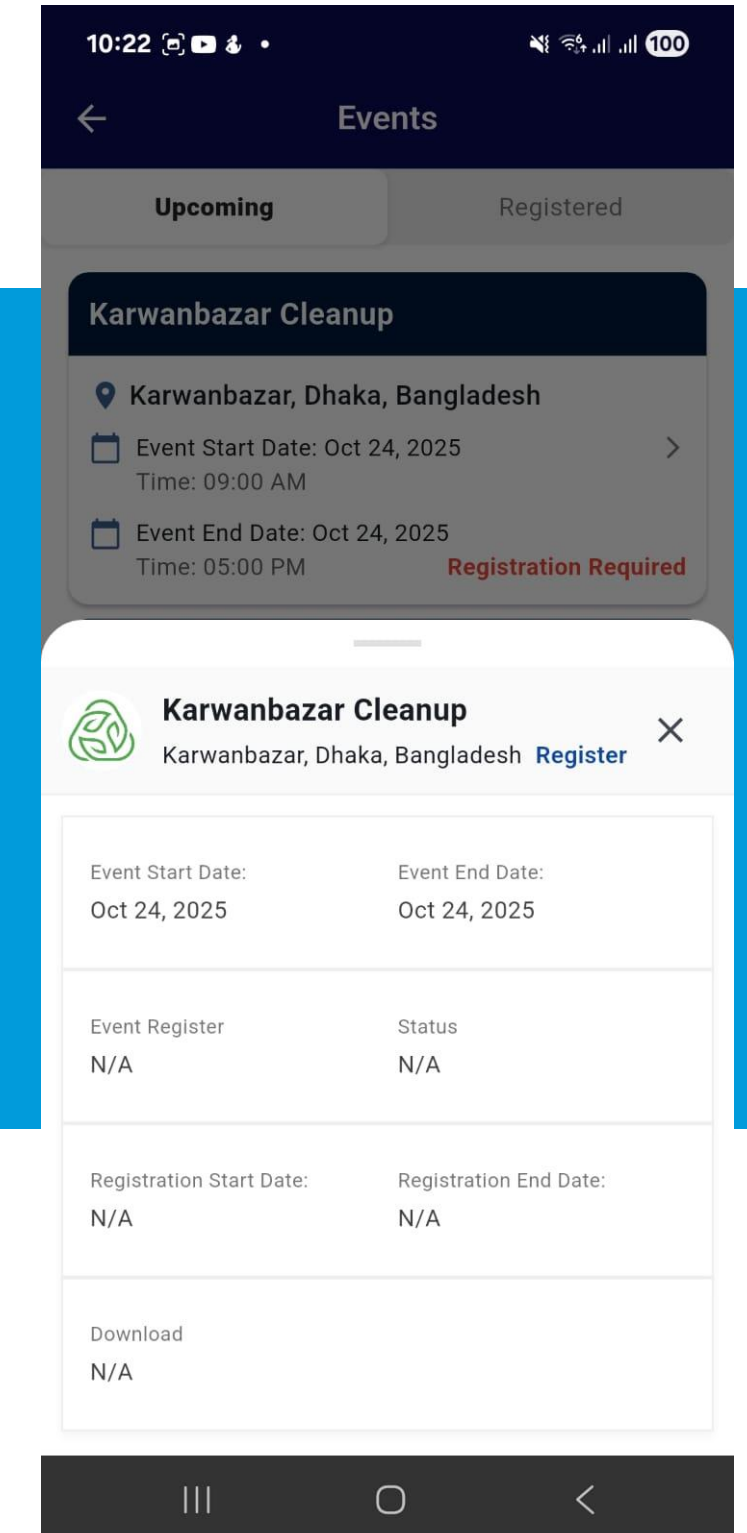
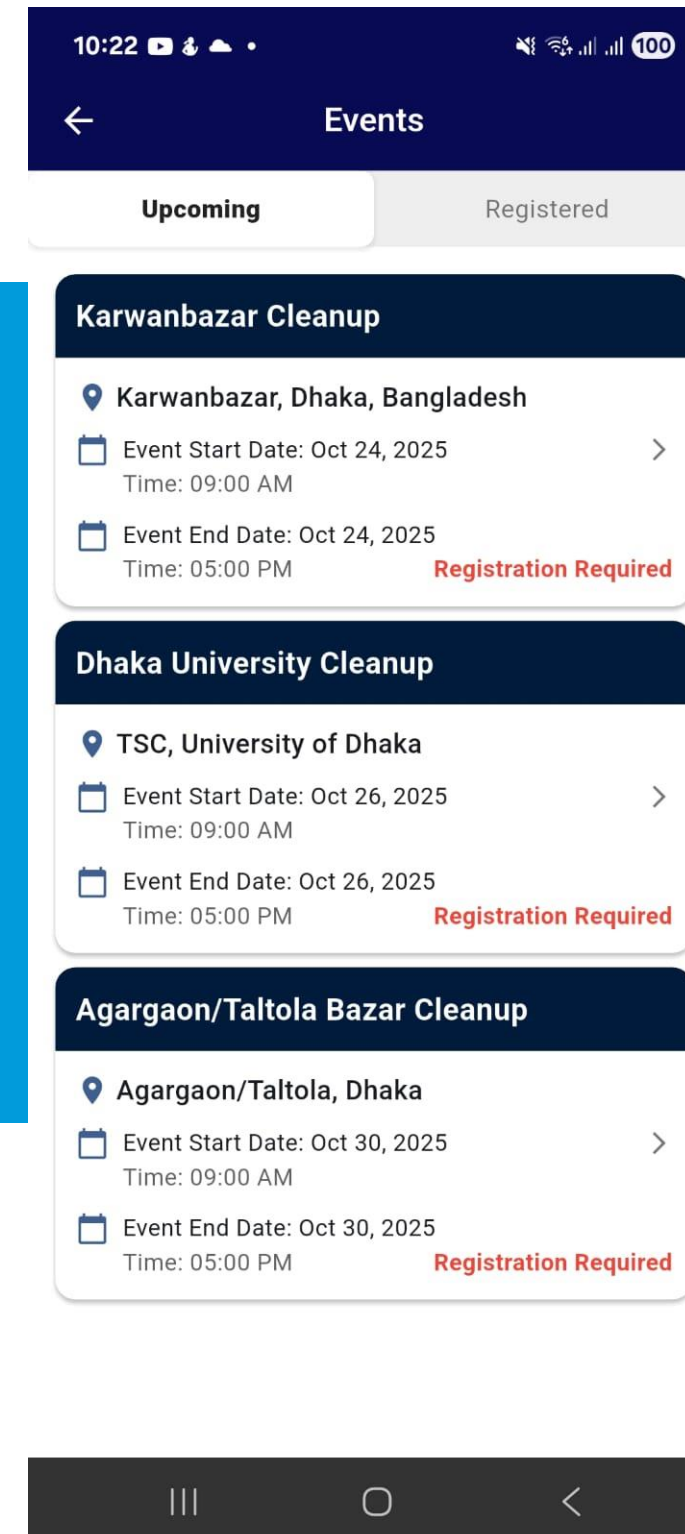


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## Events & Campaigns

- The Dashboard displaying the updated PMI Score (e.g., 98.70), its status (High Plastic Use (Needs Improvement)),





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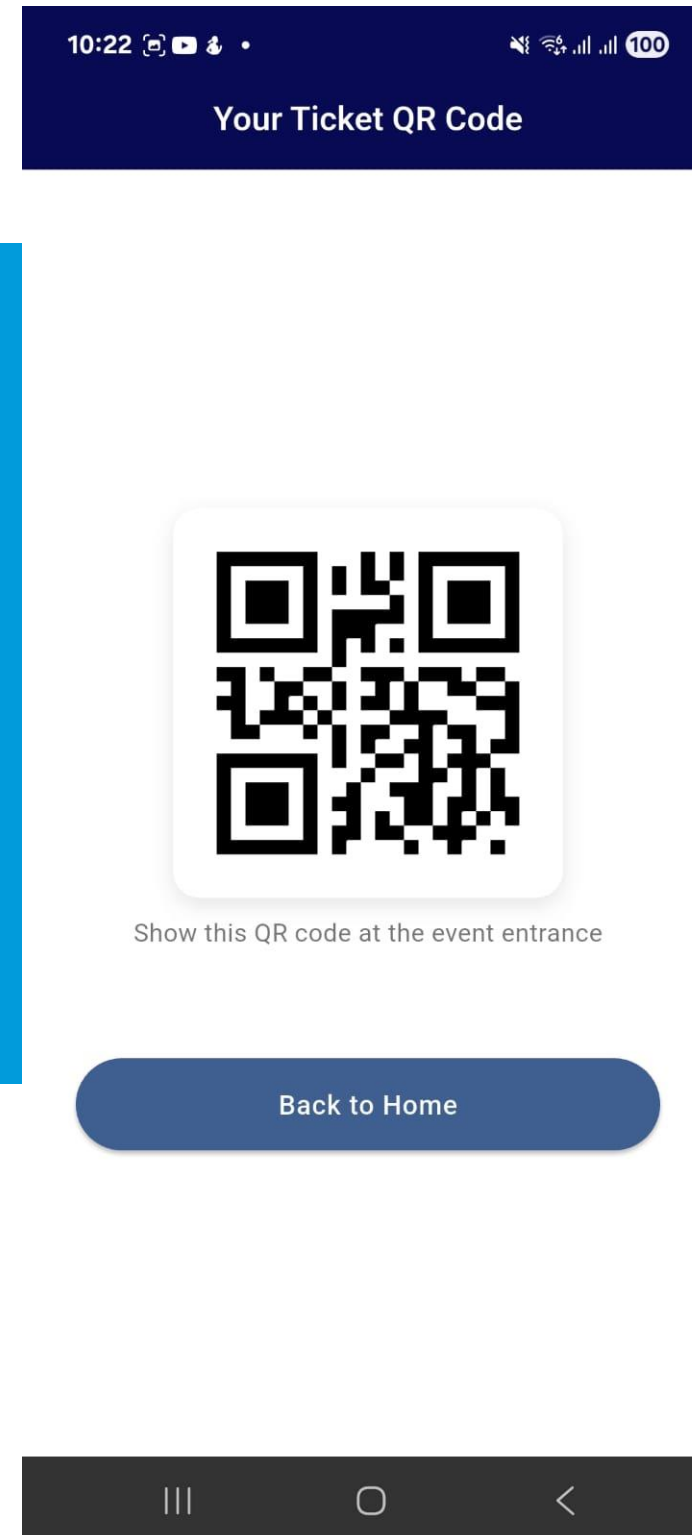
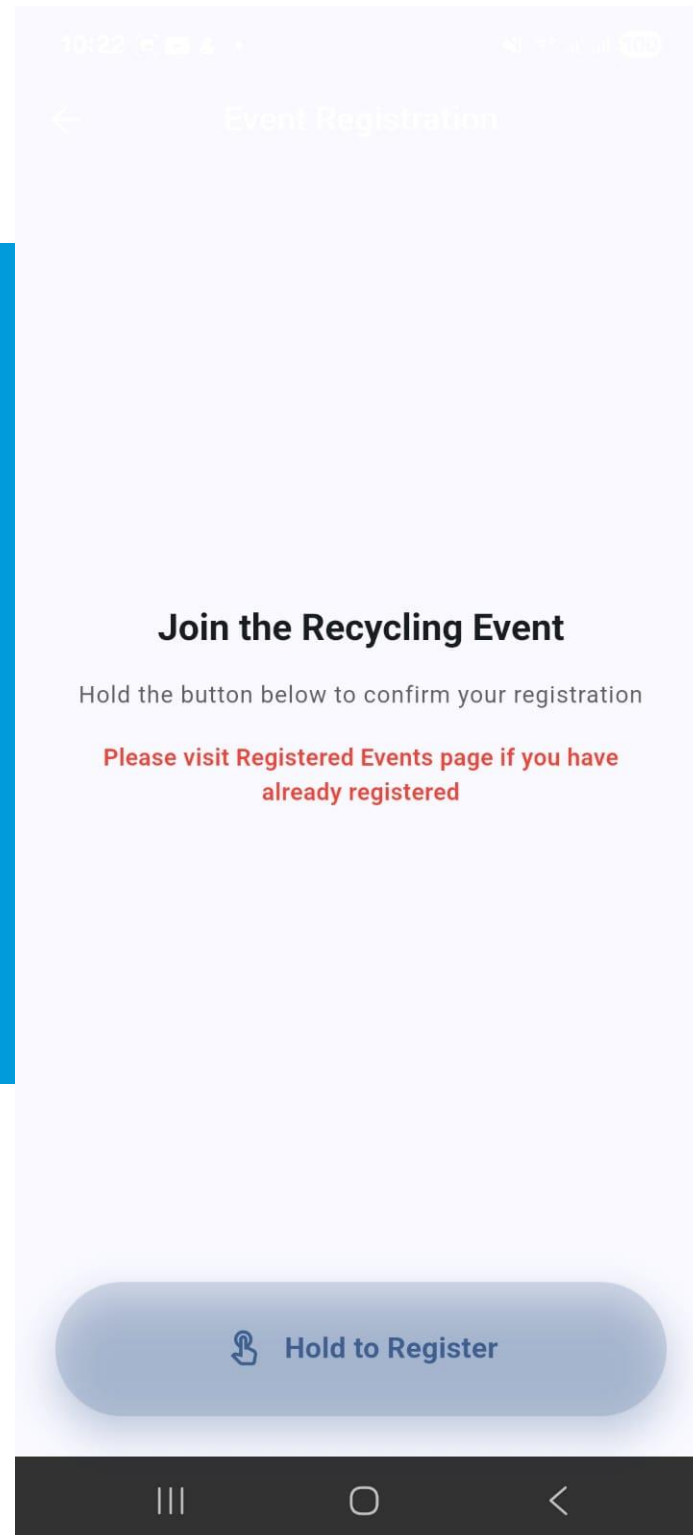


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## Register for Cleanup Events

- A screen to confirm participation in a recycling event, prompting the user to Hold to Register and providing instructions to check the Registered Events page.
- The final screen upon successful event registration, displaying the user's Ticket QR Code to be shown at the event entrance.





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# Thank you!