Test Strategy for Rolsa Technologies Digital Solution

---

1. Home Page

- **Component to be Tested**:
  The home page is the initial point of interaction for users. It includes the website's navigation, footer, main content area, and links to other pages.

- **Testing Focus**:

  o **Unit Testing**:
  Ensure that the navigation links (e.g., to the advice page, about us page, and risk assessment page) function correctly. The layout should display without errors across different screen sizes (desktop, tablet, mobile).

  o **Alpha Testing**:
  The goal is to ensure that all UI elements (buttons, images, text) are loading correctly and the overall design is responsive and intuitive. Test the home page's ability to load quickly and display all interactive elements (e.g., buttons, scrolling banners, links).

  o **Beta Testing**:
  Conduct user testing to ensure the home page provides an easy entry point to the site and that the content is clear and user-friendly. Check how well the homepage guides users to other relevant sections, including their ability to find key information.

---

2. Advice Page

- **Component to be Tested**:
  The advice page will provide users with actionable information about green energy products and how to reduce their carbon footprint.

- **Testing Focus**:

  o **Unit Testing**:
  Test all dynamic content, including energy-saving tips, product recommendations, and external links to green energy suppliers. Validate that these are pulled from the database correctly and formatted for readability.

  o **Alpha Testing**:
  Ensure all text, links, and images are displaying properly, and that all relevant information about energy-saving options and carbon reduction strategies is easy to understand.

  o **Beta Testing**:
  Conduct usability testing to gauge user satisfaction. Ensure the page is easily navigable, with accessible information about products and services. Test the effectiveness of calls to action, such as scheduling consultations or viewing products.

---

3. About Us Page

- **Component to be Tested**:
  The About Us page will provide information about the company, its mission, and the services it provides, as well as any testimonials or success stories from customers.

- **Testing Focus**:

  - **Unit Testing**:
    Ensure that all static content, including images, text, and videos, loads properly. Check links to any social media profiles or customer testimonials.

  - **Alpha Testing**:
    Test the readability and flow of the content. Verify that the page provides a clear, professional overview of the company, ensuring users understand the business's values and vision.

  - **Beta Testing**:
    Gather feedback from real users regarding the impact of the page content. Ensure the page conveys trustworthiness and resonates with the audience.

---

4. Risk Assessment Page

- **Component to be Tested**:
  The risk assessment page will provide users with a tool to calculate their carbon footprint and suggest ways to reduce it. It might include forms for inputting data (e.g., energy consumption, vehicle usage, etc.).

- **Testing Focus**:

  - **Unit Testing**:
    Test the functionality of the carbon footprint calculator to ensure it performs calculations accurately. Validate all form inputs and their corresponding results.

  - **Alpha Testing**:
    Test the user's ability to complete and submit the risk assessment form. Check if the form provides useful feedback to the user, such as tips for reducing energy consumption or improving sustainability practices.

  - **Beta Testing**:
    Collect feedback on the accuracy and usefulness of the risk assessment results. Evaluate if users find the tool helpful and whether it offers actionable insights on how to reduce their carbon footprint.

---

5. User Registration and Account Management

- **Component to be Tested**:
  The user registration and account management system will allow users to create accounts, log in, track their energy usage, and access consultation scheduling features.

- **Testing Focus**:

- o **Unit Testing**:
  Validate all registration fields (e.g., email, password) for proper input validation. Test the authentication process (login, password recovery, etc.) to ensure user credentials are stored securely.

- o **Alpha Testing**:
  Test the entire registration and login process for ease of use. Ensure users can easily create accounts, log in, and access their personalized dashboard.

- o **Beta Testing**:
  Test the user experience by conducting usability testing. Gather feedback to identify any barriers to account creation or login, ensuring that registration is easy and seamless.

---

6. Energy Tracking Tool

- **Component to be Tested**:
  The energy tracking tool will allow users to track their energy consumption, calculate savings, and analyze their carbon footprint.

- **Testing Focus**:

  - o **Unit Testing**:
    Test that the energy tracking tool properly tracks consumption based on user input and calculates carbon savings accurately. Validate data input and output, ensuring consistency and precision.

  - o **Alpha Testing**:
    Check the interface for clarity and responsiveness. Ensure that users can easily input their data and interpret the results (e.g., total energy consumption, projected savings).

  - o **Beta Testing**:
    Conduct testing with users who are familiar with energy consumption tools to assess their experience. Evaluate whether users find the tracking tool useful, intuitive, and motivating for reducing energy consumption.

---

7. Accessibility Features

- **Component to be Tested**:
  Accessibility features will ensure the website can be used by people with disabilities, including those with visual impairments or motor difficulties.

- **Testing Focus**:

  - o **Unit Testing**:
    Test that all assistive technologies (e.g., screen readers, keyboard navigation) are working properly. Ensure that images have alternative text, and form fields are labeled correctly.

- **Alpha Testing**:
  Perform checks to verify compliance with WCAG (Web Content Accessibility Guidelines). Ensure all pages meet the needs of users with disabilities and that navigation is easy for screen readers and other assistive devices.

- **Beta Testing**:
  Gather feedback from users with disabilities to assess their experience using the site. Ensure that accessibility features are effective and allow them to interact with all parts of the website without issues.

---

8. Final Testing & Integration

- **Component to be Tested**:
  The entire solution will be tested, ensuring that all pages are properly integrated and functional across all browsers and devices.

- **Testing Focus**:

  - **Unit Testing**:
    Check the integration of all individual components, ensuring they function well together.

  - **Alpha Testing**:
    Conduct comprehensive functional testing of the entire solution to ensure there are no bugs or issues.

  - **Beta Testing**:
    Perform end-to-end testing with a group of real users, ensuring the system is stable, intuitive, and all features work as expected.

Here is the test strategy in a table format, as per your request:

Date of Test	Component to be Tested	Type of Test to be Carried Out	Prerequisites and Dependencies
01/04/25	**Home Page**	**Unit Testing**	Home page must be created with navigation elements in place.
02/04/25		**Alpha Testing**	Ensure the home page layout is responsive, and all navigation elements and links are functional across devices.
03/04/25		**Beta Testing**	Gather feedback on user experience, ensuring the page is intuitive and guides users to other relevant sections.
04/04/25	**Advice Page**	**Unit Testing**	Ensure dynamic content (energy-saving tips, product recommendations) loads correctly.
05/04/25		**Alpha Testing**	Ensure the advice page is informative and visually accessible. Test for clarity in energy-saving tips and product listings.
06/04/25		**Beta Testing**	Perform usability testing, ensure the page delivers value, and the calls-to-action (e.g., scheduling consultations) work well.
07/04/25	**About Us Page**	**Unit Testing**	Test static content, including images and text, for proper display.
08/04/25		**Alpha Testing**	Ensure the About Us page conveys the company's values, mission, and services effectively.
09/04/25		**Beta Testing**	Collect feedback on trustworthiness, readability, and impact of the page content from users.
10/04/25	**Risk Assessment Page**	**Unit Testing**	Test the carbon footprint calculator for accuracy, and validate all form inputs and outputs.
11/04/25		**Alpha Testing**	Ensure the page is easy to navigate and users can interact with the carbon footprint calculator easily.
12/04/25		**Beta Testing**	Test the tool's accuracy with real users. Gather feedback on its usability and whether the recommendations are helpful in reducing energy consumption.

Date of Test	Component to be Tested	Type of Test to be Carried Out	Prerequisites and Dependencies
13/04/25	**User Registration & Account Management**	**Unit Testing**	Validate registration fields, login functionality, and ensure data is securely stored in the database.
14/04/25		**Alpha Testing**	Test the overall user experience for creating accounts, logging in, and managing user profiles with ease.
15/04/25		**Beta Testing**	Conduct usability testing on the registration and account management process, ensuring it's seamless and user-friendly.
16/04/25	**Energy Tracking Tool**	**Unit Testing**	Test energy tracking features to ensure accurate tracking and calculation of user input (energy usage).
17/04/25		**Alpha Testing**	Ensure users can easily input data and interpret results. Test the overall interface for clarity and ease of use.
18/04/25		**Beta Testing**	Conduct user feedback sessions to assess tool functionality and how well it helps users track energy usage and savings.
19/04/25	**Accessibility Features**	**Unit Testing**	Test all assistive technologies (e.g., screen readers, keyboard navigation) and verify compliance with WCAG guidelines.
20/04/25		**Alpha Testing**	Ensure the site is accessible for users with disabilities and that all elements are functional for screen readers and assistive devices.
21/04/25		**Beta Testing**	Gather feedback from users with disabilities to ensure accessibility features work as expected and provide an inclusive experience.
22/04/25	**Full Solution**	**Unit Testing**	Ensure that all components are integrated correctly and function without errors across all pages (Home, Advice, About Us, Risk Assessment).
23/04/25		**Alpha Testing**	Perform overall functional testing of the complete solution, ensuring all pages and features work as expected.
24/04/25		**Beta Testing**	Conduct end-to-end testing with real users, ensuring the system is stable, intuitive, and all features are functioning as intended.

This table presents the testing phases and their corresponding focus areas, starting with unit testing, then progressing through alpha testing, and ending with beta testing for real-world feedback.

Rolsa Technologies Data Dictionary:

Field Name	Data Type	Data Format	Field Size	Description	Example
user_id	Integer	x...	11	Unique identifier for each user	1
first_name	Varchar	-	255	First name of the user	John
last_name	Varchar	-	255	Last name of the user	Doe
email	Varchar	-	255	Email address of the user	johndoe@example.com
password	Varchar	-	255	Encrypted password for user login	******************
account_created	Date	YYYY-MM-DD	-	Date when the user account was created	2025-03-21
last_login	Date	YYYY-MM-DD	-	Last login date of the user	2025-03-21
account_status	Varchar	-	50	Status of the user's account (Active, Inactive, Suspended)	Active
carbon_footprint	Decimal	-	10,2	Calculated carbon footprint of the user based on energy usage	3.45
consultation_date	Date	YYYY-MM-DD	-	Date when the user schedules a consultation	2025-04-10

Field Name	Data Type	Data Format	Field Size	Description	Example
consultation_time	Time	HH:MM:SS	-	Time of the scheduled consultation	14:30:00
consultation_type	Varchar	-	100	Type of consultation (e.g., Solar Panel Installation, EV Charging)	Solar Panel Installation
user_ip	Varchar	-	255	IP address of the user	181.252.15.13
user_location	Varchar	-	255	Location of the user (City, Country)	London, UK
energy_consumed	Decimal	-	10,2	Total energy consumed by the user (in kWh)	350.50
energy_savings	Decimal	-	10,2	Total energy savings after the consultation or energy optimization	150.00
ev_charging_usage	Decimal	-	10,2	Energy consumed for Electric Vehicle (EV) charging (in kWh)	75.00
solar_panel_usage	Decimal	-	10,2	Energy consumed from solar panel installation (in kWh)	200.00
accessibility_id	Integer	x...	11	Identifier for the user's accessibility preferences	2
accessibility_features	Varchar	-	255	User's preferences for	High contrast, screen reader

Field Name	Data Type	Data Format	Field Size	Description	Example
				accessibility features	
profile_picture	Varchar	URL	255	URL to the user's profile picture	https://example.com/pic.jpg
carbon_offset	Decimal	-	10,2	Amount of carbon offset by the user through green energy solutions	0.50
feedback	Text	-	4,096	Feedback provided by the user after consultation	"Great service, very helpful!"
consultation_status	Varchar	-	50	Status of the consultation (Scheduled, Completed, Cancelled)	Scheduled
consultation_notes	Text	-	4,096	Notes or recommendations for the user after consultation	"Install 4 solar panels for optimal performance."
ev_charging_station_location	Varchar	-	255	Location of the EV charging station if relevant	"123 Green Street, London"
solar_panel_location	Varchar	-	255	Location of the solar panels on the property	"Roof, 12th floor"
preferred_communication	Varchar	-	100	User's preferred method of communication (Email, Phone, SMS)	Email
referral_source	Varchar	-	100	How the user found out about Rolsa	Referral

Field Name	Data Type	Data Format	Field Size	Description	Example
				Technologies (e.g., Referral, Online, Advertisement)	
language_preference	Varchar	-	50	Preferred language for communication	English
account_type	Varchar	-	50	Type of user account (e.g., Individual, Corporate)	Individual
user_feedback_rating	Integer	-	1	Rating of the user's experience (1-5 stars)	5

Description of the Fields:

🌱 Rolsa Technology   Home   EV Charging   Smart Home   About   Contact   **Get Started**

Powering the Future with Green Technology

Transform your lifestyle with our advanced EV charging solutions and smart home management systems.

Explore Solutions   Learn More   ‹ 4 / 12 ›

EV Charging Solutions

Advanced charging infrastructure for your electric vehicle needs

Home Charging

Smart residential charging stations with power management and scheduling features.

✓ Up to 22kW charging power
✓ Smart load balancing
✓ Mobile app control

🏢   ‹ 4 / 12 ›

Commercial Charging

High-power charging solutions for businesses and public spaces.

✓ Multiple charging points
✓ Payment integration
✓ Fleet management

⚡

Fast Charging

Ultra-fast DC charging stations for quick power-ups on the go.

✓ 350kW power output
✓ 15-minute charging
✓ Multiple connector types

Smart H ‹ 4/12 › agement

Take control of your home's energy consumption

📈 **Energy Monitoring**
Real-time energy consumption tracking and analytics.

🤖 **Smart Automation**
Automated control of lighting, heating, and appliances.

▦ **Solar Integration**
Seamless integration with solar power systems.

‹ 4 / 12 ›

📱 **Mobile Control**
Control your home systems from anywhere with our mobile app.

Ready to Go Green?

Join thousands of satisfied customers who have transformed their homes and businesses with our sustainable solutions.

Schedule a Consultation

🌱 **Rolsa Technology**

Leading the way in sustainable energy solutions for homes and businesses.

Solutions
EV Charging
Smart Home
Commercial Solutions
Solar Integration

Company
About Us
Careers
News
Contact

Connect
⬤ 🐦 in 📷

Subscribe to our newsletter

Your email   **Subscribe**

‹ 4 / 12 ›