TravelTails UK

Web Application Technical Documentation

PG Student
St George's, University of London
November 2025

Abstract

TravelTails UK is a responsive web application connecting pet owners with verified pet-friendly accommodations across the United Kingdom. This documentation presents the technical implementation, design rationale, and feature architecture of the platform, demonstrating modern web development practices.

1. Introduction

TravelTails UK addresses the challenge of locating genuinely welcoming travel accommodations for pet owners throughout the United Kingdom. The platform implements contemporary web standards whilst prioritising accessibility and cross-device compatibility.

2. Design Methodology

The visual design employs a dark gradient background implementing `linear-gradient(135deg, #2c3e50, #34495e)` with strategic gold accent colouring (`#d4af37`), establishing a premium and trustworthy aesthetic. Content maintains a maximum width of 1000px at 95% viewport width, ensuring optimal readability across device categories. The typographic system combines Rubik for body text and Charm for hierarchical headings, balancing professional presentation with approachable design language.

3. Responsive Architecture

3.1 Breakpoint Strategy

Three critical breakpoints structure the responsive implementation:

- **1320px**: Tablet landscape orientation adjustments
- **800px**: Font size reduction to 75% base scale
- **600px**: Mobile navigation activation threshold

3.2 Navigation Implementation

The SlickNav hamburger menu activates at the 600px breakpoint as specified, employing CSS transforms and JavaScript event listeners. ARIA attributes (`aria-expanded`, `aria-label`) ensure assistive technology compatibility. Navigation architecture transitions from horizontal flexbox layout to vertical stacking with enhanced touch target dimensions.

4. Form Validation Architecture

Three distinct forms implement comprehensive client-side validation: trip booking, newsletter subscription, and membership registration. Email validation employs regex pattern matching whilst required fields provide immediate colour-coded feedback—red for errors, green for success, yellow for loading states. The membership registration form validates name, address, email, and optional comments with conditional validation logic ensuring data quality.

5. Semantic Structure

HTML5 semantic elements (`<header>`, `<nav>`, `<main>`, `<section>`, `<aside>`, `<footer>`) provide document structure, improving accessibility and search engine optimisation. The footer `<aside>` contains external resource links with colour state indicators—blue for unvisited, green for visited, white on hover meeting WCAG contrast requirements.

6. Accessibility Implementation

The application includes visually-hidden labels for screen readers, keyboard navigation support, and proper link semantics. All interactive elements maintain sufficient colour contrast ratios with descriptive ARIA attributes. Forms implement `novalidate` to enable custom validation messaging whilst preserving accessibility features.

7. Membership System

The registration system integrates with a pricing table displaying three service tiers: variable-price pet-friendly hotels, pet travel insurance from £4.99, and TravelTails Club membership at £4.99 monthly. The form validates all required fields before submission with real-time feedback.

8. Technical Implementation

External resources load from content delivery networks (Google Fonts, Font Awesome) optimising browser caching. CSS employs efficient selectors whilst minimising specificity conflicts. Flexbox manages layout architecture, avoiding legacy float-based positioning. Media queries implement mobile-first principles with progressive enhancement for larger viewports.

9. Conclusion

TravelTails UK demonstrates proficiency in responsive web design, form validation, semantic HTML markup, and accessibility standards. The implementation satisfies technical requirements whilst establishing a robust foundation for future backend integration and feature expansion.