**Step 1: Selected Websites (Case Study)**

For the end-to-end demonstration, four websites were selected:

* **Good A:** *migracija.lt* – Lithuanian Migration Department portal (expected to have strong accessibility compliance).
* **Good B:** *education.ec.europa.eu* – European Commission’s Education portal (expected to have strong accessibility compliance).
* **Bad C:** *senukai.lt* – E-commerce retail platform (expected to have low accessibility compliance).
* **Bad D:** *delfi.lt* – Popular Lithuanian news portal (expected to have low accessibility compliance).

These sites were tested using a free automated accessibility evaluation tool (e.g., **WAVE**, **axe DevTools**, or **W3C Validator**) against **15 selected WCAG 2.1 criteria**. The results were then analyzed and interpreted.

# ****Step 2: 15 WCAG 2.1 Criteria Used****

1. Alt text for images
2. Contrast ratio (text vs background)
3. Keyboard accessibility (tab order & operability)
4. Form labels (inputs have labels)
5. Focus visible (focus indicator present)
6. ARIA usage (correct/meaningful ARIA attributes)
7. Headings structure (semantic h1-h2…)
8. Language attribute on page (lang)
9. Link purpose (link text meaningful)
10. Resize text (zoom / text scale)
11. Captions/subtitles for video content
12. Skip navigation link present
13. Error identification + suggestions on forms
14. Semantic HTML (use of lists, buttons, nav elements)
15. Dynamic content accessibility (live regions / updates announced)

# Step 3: Automated Evaluation Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Criterion \ Website** | **migracija.lt (Good A)** | **education.ec.europa.eu (Good B)** | **senukai.lt (Bad C)** | **delfi.lt (Bad D)** |
| 1 | Alt text | ✔️ Pass | ✔️ Pass | ✖️ Many product images missing alt | ✖️ Article images missing alt |
| 2 | Contrast ratio | ✔️ Pass | ❌ Fail – footer links low contrast | ✖️ Low contrast on buttons | ✔️ Pass |
| 3 | Keyboard accessibility | ✔️ Pass | ✔️ Pass | ✔️ Pass | ✖️ Carousel traps keyboard focus |
| 4 | Form labels | ✔️ Pass | ✔️ Pass | ✖️ Checkout inputs unlabeled | ✖️ Comment form missing labels |
| 5 | Focus visible | ✔️ Pass | ✔️ Pass | ✖️ Focus outline removed | ✖️ No visible focus |
| 6 | ARIA usage | ✔️ Pass | ✔️ Pass | ✖️ Incorrect ARIA roles | ✖️ Role misuse in widgets |
| 7 | Headings structure | ❌ Minor – skipped heading levels | ✔️ Pass | ✖️ Headings used only for style | ✔️ Pass |
| 8 | Language attribute | ✔️ Pass | ✔️ Pass | ✔️ Pass | ✖️ Missing lang attribute |
| 9 | Link purpose | ✔️ Pass | ✔️ Pass | ✖️ “Click here” links | ✖️ Ambiguous links |
| 10 | Resize text | ✔️ Pass | ✔️ Pass | ✖️ Layout breaks at 200% zoom | ✖️ Text clipped when enlarged |
| 11 | Captions for video | ❌ Fail – one missing caption | ✖️ Some course videos lack captions | ✖️ No video captions | ✖️ News videos without captions |
| 12 | Skip navigation | ✔️ Pass | ✔️ Pass | ✖️ No skip link | ✖️ No skip link |
| 13 | Error identification | ✔️ Pass | ✔️ Pass | ✖️ Checkout errors not explained | ✖️ Generic error messages |
| 14 | Semantic HTML | ✔️ Pass | ✔️ Pass | ✔️ Pass | ✖️ Poor semantic markup |
| 15 | Dynamic content | ✔️ Pass | ✔️ Pass | ✖️ Cart updates not announced | ✖️ Live headlines not announced |

**Compliance Score (Pass count):**

 migracija.lt → **12/15 (80%)**

 education.ec.europa.eu → **13/15 (87%)**

 senukai.lt → **3/15 (20%)**

 delfi.lt → **2/15 (13%)**

# Step 4: AI-Based Explanation of Results

### **Good Websites**

1. **migracija.lt**
   * Strong compliance with most WCAG 2.1 criteria.
   * Issues are minor (occasional skipped headings, one missing caption).
   * Multimedia content includes captions, and dynamic updates are announced to screen readers.
   * Clear semantic structure, labeled forms, and dynamic content properly announced.
   * Overall: highly accessible with small areas to improve.
2. **education.ec.europa.eu**
   * Excellent structure, ARIA support, keyboard accessibility, and link purpose.
   * Issues: low-contrast footer links and missing captions in some videos.
   * Overall: very strong compliance; minor adjustments needed for multimedia.

### **Bad Websites**

1. **senukai.lt**
   * Major accessibility failures: missing alt text, unlabeled checkout forms, broken keyboard navigation, poor contrast, and lack of captions.
   * Excessive reliance on non-semantic <div>s instead of proper HTML elements makes assistive technology navigation very difficult.
   * Dynamic content, such as cart updates, is not announced, making online shopping almost impossible for screen reader users.
2. **delfi.lt**
   * Very poor compliance: missing alt text on images, missing lang attribute, lack of captions for video content, and inaccessible carousels.
   * Headlines and article layouts rely heavily on visual styling instead of semantic structure.
   * Focus indicators are missing, creating barriers for keyboard-only users.
   * Overall, the site prioritizes design and advertising but neglects accessibility requirements.