

# WCAG 2.1 Compliance Guidelines for STUNIR

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## Overview

This document outlines WCAG 2.1 compliance requirements for STUNIR-generated outputs.

## Compliance Levels

Level	Description	STUNIR Target
A	Minimum accessibility	Required
AA	Enhanced accessibility	Recommended
AAA	Highest accessibility	Optional

## STUNIR-Specific Guidelines

### 1. Perceivable

#### 1.1 Text Alternatives

- All non-text content must have text alternatives
- Generated code comments should describe functionality
- Diagrams/charts must include alt text or descriptions

#### 1.2 Time-based Media

- Not typically applicable to STUNIR outputs

#### 1.3 Adaptable

- Generated HTML must use semantic markup
- Data tables must have proper headers
- Reading order must be logical

#### 1.4 Distinguishable

- Color must not be the only means of conveying information
- Text contrast ratio: 4.5:1 minimum (Level AA)
- Text resizable to 200% without loss of content

## 2. Operable

### 2.1 Keyboard Accessible

- All functionality available via keyboard
- No keyboard traps

### 2.4 Navigable

- Page titles descriptive and unique
- Heading hierarchy logical (h1 → h2 → h3)

- Link purpose clear from context

### **3. Understandable**

#### **3.1 Readable**

- Language of page identified
- Unusual words/abbreviations defined

#### **3.2 Predictable**

- Navigation consistent
- Components behave predictably

#### **3.3 Input Assistance**

- Error identification clear
- Labels descriptive

### **4. Robust**

#### **4.1 Compatible**

- Valid HTML/CSS
- ARIA used correctly when needed
- Compatible with assistive technologies

## **STUNIR Output Requirements**

### **Generated HTML**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Descriptive Title - STUNIR Output</title>
</head>
<body>
  <!-- Proper heading hierarchy -->
  <h1>Main Heading</h1>
  <main>
    <!-- Semantic structure -->
    <article>
      <h2>Section Heading</h2>
      <p>Content...</p>
    </article>
  </main>
</body>
</html>
```

### **Generated Documentation**

- Use clear, simple language
- Provide code examples with comments
- Include table of contents for long documents
- Use consistent terminology

### **Generated Code**

- Include descriptive comments

- Use meaningful variable/function names
- Provide accessibility metadata where applicable

## Validation

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Use the `standards_checker.py` tool to validate outputs:

```
python3 standards_checker.py --wcag-level AA output.html
```

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## References

- [WCAG 2.1 Specification](https://www.w3.org/TR/WCAG21/) (<https://www.w3.org/TR/WCAG21/>)
- [WCAG Quick Reference](https://www.w3.org/WAI/WCAG21/quickref/) (<https://www.w3.org/WAI/WCAG21/quickref/>)
- [WebAIM](https://webaim.org/) (<https://webaim.org/>)