

Deceptive Patterns and FAST

Framework for Accessible Specifications of Technologies

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What is FAST?

The **Framework for Accessible Specification of Technologies** (FAST) advises creators of technical specifications how to ensure their technology meets the needs of people with disabilities.

The primary audience of FAST are **creators of Web technologies** (e.g., content and presentational technologies like HTML, CSS, PDF, audio/video formats, etc.)

Goals of FAST

FAST was **originally designed** for internal accessibility spec review at the W3C.

The goal of FAST is to provide a **potential source** of guidelines for Web technology accessibility.

They relate to other guidelines and documentation to provide **additional information and rationale** for the requirement.

To help ensure that web technologies meet the needs of people with disabilities, which involves three stages.

3 Stages of FAST

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FAST Approach

Three stages

- Inventory functional and user needs;
- Identify ways to meet needs;
- Develop technology guidelines.



FAST Approach

Stage one

- Inventory known functional and user needs.
- Many user needs affecting Web content accessibility are well known and documented in many places.
- These needs are collected and related to each other in order to arrive at a single set of known needs.



Functional Needs

Definition

A **functional need** is a statement that describes a specific gap in one's ability, or a specific mismatch between ability and the designed environment or context.

An **intersectional functional need** results from an individual having more than one functional need simultaneously in a given context.

A **functional ability** is a notional measure of a person's abilities that may need technological support or augmentation to be able to complete a particular task.

Functional Needs

Categories/Sub-categories

- Safety - No sub-categories (yet?);
- Sensory - Vision & Visual, Hearing & Auditory, Sensory Interactions;
- Physical - Mobility, Motor, Physical & Sensory Intersections, Speech;
- Cognitive - Attention, Language & Communication, Learning, memory, Executive, Mental Health, Cognitive & Sensory Intersections;
- Independence - Independence

User Needs

Definition

A **user need** is a high level accessibility characteristic of content and/or a user interface that is necessary for users to complete an objective.

In this model, **user needs are not accessibility specific**. User needs are generic requirements of content for its features to be usable by humans.

User Needs

Categories/Sub-categories

- Perceivable - Provide consistent content, Reveal changed content;
- Operable - Provide consistent interactions, Allow adjustable content;
- Understandable - Make appearance understandable, Provide help and instructions, Make position and orientation clear, make discoverable;
- Personalization - Customization, Preferences;
- Deceptive Patterns - Distractions and Interruptions, No Harm.

FAST Approach

Stage two

- Identify ways these needs can be met. There are three high-level ways user needs can be met:
 - Technology features;
 - Author implementation;
 - User agent support.



Meeting Needs

Identifying ways to meet needs

These are **not exclusive** categories. A given user need could be met by more than one of these categories.

Some needs can be met with present technology only via **one** of these routes.

All of these ways of meeting user needs are **identified**, along with their **relationships** to each other.

FAST Approach

Stage three

- From the analyses, it should also be easy to see where content technology features are required to make it possible to meet user needs. For example:



- If the author must implement something, the technology **must provide a feature** for the author to implement.
- If the user need is met by design, the technology **must provide suitably rich design capabilities**.
- If the user need is met by user agents, the technology **must provide a sufficiently rich definition** of the object for user agents to implement.

“Dark” Patterns

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“Dark” Patterns



Connotation and Racism

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Black/Dark - Evil, disgrace, vile, immoral

White/Light - Purity, good, innocence, cleanliness

Connotations of color in which racial groups are defined have **permeated** into the vernacular of the Web.

“These connotations **may well reinforce** social norms pertaining to those groups.” – Douglas Longshore

Color Connotations and Racial Attitudes, Douglas Longshore, Journal of Black Studies, Vol. 10, No. 2 (Dec., 1979), pp. 183-197 (15 pages). Published By: Sage Publications, Inc.

Connotations of color in which racial groups are defined have permeated into the vernacular of the Web.

“We highlight how racial biases in emotion reasoning, which emerge as early as infancy, likely contribute to miscommunications, **inaccurate social perceptions**, and **negative interracial interactions** across the lifespan.” – Ashley L Ruba, Ryan McMurty, Sarah E Gaither, Makeba Parramore Wilbourn

Ruba AL, McMurty R, Gaither SE, Wilbourn MP. How White American Children Develop Racial Biases in Emotion Reasoning. *Affect Sci.* 2022 Apr 1;3(1):21-33. doi: 10.1007/s42761-022-00111-y. PMID: 36046098; PMCID: PMC9383007.

Deceptive Patterns

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What are “Deceptive” Patterns?

“A deceptive pattern is a **deliberate** anti-pattern **designed** to confuse or deceive a user. There is a difference between poor design and unintentional blockers for users.”

Functional Needs Subgroup

“A deceptive pattern is where there is **a deliberate attempt** to aim or force a user down a particular path or to trap attention in a way that redirects or focuses on a goal, that the user either doesn't want or need or maybe harmful to them.”

Functional Needs Subgroup

Solving User Needs

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Makes Web pages more **accessible** and **usable**, **less harmful** to people with disabilities and neurodivergent users, and creates **friendlier and safer** user experiences for everyone.

Examples

Deceptive Patterns

Categories of barriers

- Annoying / Unwanted (Unexpected)
- Not using affordances
- Vestibular
- Not activated / Not controlled by user
- Indicators
- Unwanted content / advertising / without user knowledge

Deceptive Patterns

Categories of barriers

- Wording
- Consistency (Affordances)
- Adjustability / flow blockers
- (Time) Pressure
- Invasive

Deceptive Patterns

Examples of patterns/anti-patterns

- Trick questions;
- Menu items that open on hover, other that open on click;
- Copy and paste is disabled;
- Time remaining to buy tickets (Hi Ticketmaster! 🖐️);
- Asking the user to enable features (microphone, camera, etc.).

Real-World Examples

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Autoplay

If you autoplay audio/video, expect a strongly worded email!

Disabled buttons

Create barriers for disabled people more than they help.

Animation

Persons with vestibular issues can be harmed

Surprise!

Popups or modals that love to slap you in the face!

Focus

Poor focus management or non-movement in multi-page forms

Paywalls

The “good” content is locked up so you have to pay, the bad stuff is free!

GDPR Messages

Menu items appearing on hover

Infinite scrolling *

Timers

Pages asking for geolocation

Any current gap in the WCAG guidelines
we want to address through FAST and
deceptive patterns.

The most important part about bringing deceptive patterns to WCAG 3 is to **reduce harm** to those who are affected.

Safety

Do you want to feel safe while online?

People can use **without** physical harm or risk (to self or others within a physical environment).

Ways to Meet User Needs

User needs **need** to be analyzed
for how they can be met.

How to meet user needs:

- **Author design**
- **Author technical implementation**
- **User agent accessibility support of standard features**
- **User agent support of author-implemented accessibility features**
- **Assistive technology support (including accessibility API mediation)**

Examples of Meeting User Needs

Draft

The document is a preliminary draft.

For each expected outcome, ways to meet it are proposed for:

- Technologies
- Content Authors
- User Agents

Other categories may be included later. Many user needs can be met in more than one way.

Text Alternatives Examples

User Need	Technology	Content Author	User Agent
Text Alternatives	Provide a mechanism for author to create text alternatives and associate with content	Create text alternative content and associate with primary content using features of the content technology	Expose text alternatives provided by the author
	Define parseable and semantically rich content encoding that supports automated creation of text alternatives	Encode content using a content technology that is sufficiently rich that machines can create useful automated text alternatives	Create automated text alternative content based on the semantics of the primary content
	Provide color definition features that allow authors to set colors to meet requirements	Use only colors that meet luminosity contrast guidelines	
	Provide color definition features that allow users to override author-set colors		Provide a feature for users to override author colors

Color Contrast Examples

User Need	Technology	Content Author	User Agent
Color Contrast	Provide color definition semantics that allow colors of common object types to be globally remapped easily	Use semantically defined color mappings to allow user global preferences to be easily applied	Support semantically defined color mappings to allow users to define global preferences that are easily applied across a range of content
		Provide a feature to allow users to define their own color preferences	
		Provide a feature to allow users to request “high contrast” mode	
			Provide a “high contrast” mode that overrides author colors

But...

What about large companies like Meta,
Twitter, Google, etc.? How will you get
them to **change**?

Ethical Web Principles

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- W3C TAG Ethical Web Principles
 - The web should be a platform that helps people and provides a positive social benefit
- Ethical Principles for Web Machine Learning
 - This document discusses ethical issues associated with using Machine Learning and outlines considerations for web technologies that enable related use cases

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<https://toddl.dev/slides>

<https://raw.githack.com/w3c/fast/restructure-functional-and-user-needs/index.html>

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