# Improving CDS Webpages Accessibility

# André Schaaff<sup>1</sup>, Grégory Mantelet<sup>1</sup>, Thomas Boch<sup>1</sup>, Nathan Feldis <sup>2</sup>

Université de Strasbourg, CNRS, Observatoire astronomique de Strasbourg, UMR 7550, F-67000 Strasbourg, France<sup>1</sup>

Unistra, 67000 Strasbourg<sup>2</sup>

Concerns... providing the best experience to (all) the users was always our aim when developing tools and services.

## Web accessibility?

• Web accessibility means designing websites, applications, and digital content so that everyone, including people with disabilities, can perceive, understand, navigate, and interact with them. It ensures equal access to information and functionality for users with Visual impairments (blindness, low vision, color blindness), Hearing impairments, Motor or mobility limitations or Cognitive or learning disabilities

## Accessibilty 4 principles

WCAG (Web Content Accessibility Guidelines) Principles (P.O.U.R.)

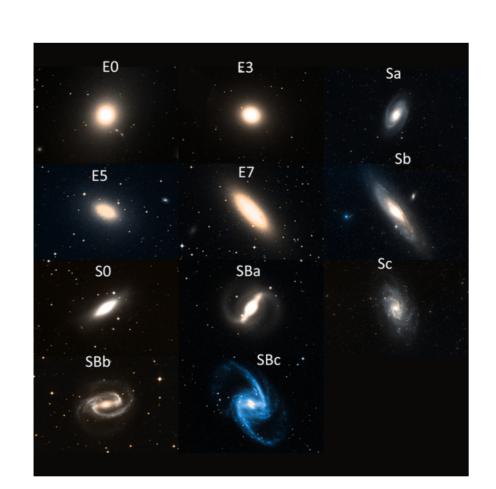
**Perceivable** – information must be presented in ways users can perceive (e.g., alt text for images, subtitles).

**Operable** – interface elements must be usable via keyboard, voice, or assistive technologies.

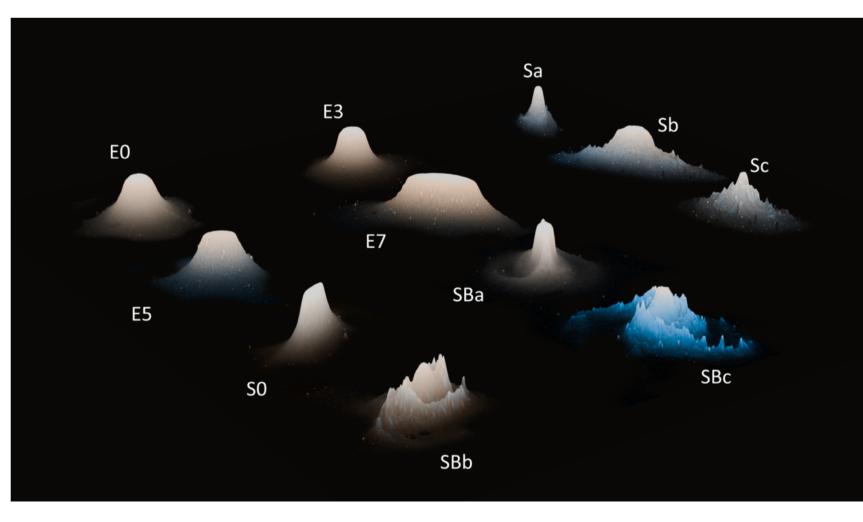
**Understandable** – content and navigation must be clear and predictable. **Robust** – content must work with a variety of user agents and assistive tools.

#### Actions at at CDS

- Compliance testing through Accessibility Evaluation tools
- taking into account rules from guides like ARIA (Accessible Rich Internet Applications).
- Dedicated library available for all the CDS Webpages
- tests around sonification and 3D modelisation



3D modelisation of galaxies where height is linked to the pixels brightness



Overview Aladin Deskto Aladin Lite Information Aladin is an interactive sky atlas allowing the user to visualize digitized astronomical images or full surveys, superimpose entries from astronomica catalogues or databases, and interactively access related data and information → en français for Python notebooks The Aladin sky atlas is available in two modes: Aladin Desktop, a regular Desktop application Aladin Lite a Javascript Web application **Aladin Desktop** Aladin Desktop is a widely-used java tool capable of addressing challenges such as locating data of interest, accessing and exploring distributed datasets, visualizing multi-wavelength data. analysis tools, ability to easily compare heterogeneous data are key topics allowing Aladin to be a powerful data exploration and integration tool as well as a science enabler. Aladin Desktop is **Aladin Lite** Example: A dedicated icon on the Web pages to open the accessibility menu to

Aladin Sky Atlas

## Why Accessibilty Matters

- Ethical and social reason: promotes digital inclusion.
- Legal requirement: compliance with standards such as
  - WCAG (Web Content Accessibility Guidelines),
  - European Accessibility Act (2025),
  - Référentiel général d'amélioration de l'accessibilité (RGAA) in France.
- Technical benefit: improves SEO, UX, and mobile compatibility.
- Scientific / institutional relevance: ensures open science and public data reuse by all.

### Practical actions

**Validate** using tools, e.g. W3C Web Accessibility initiative tools list Provide **alternative text** for images and icons.

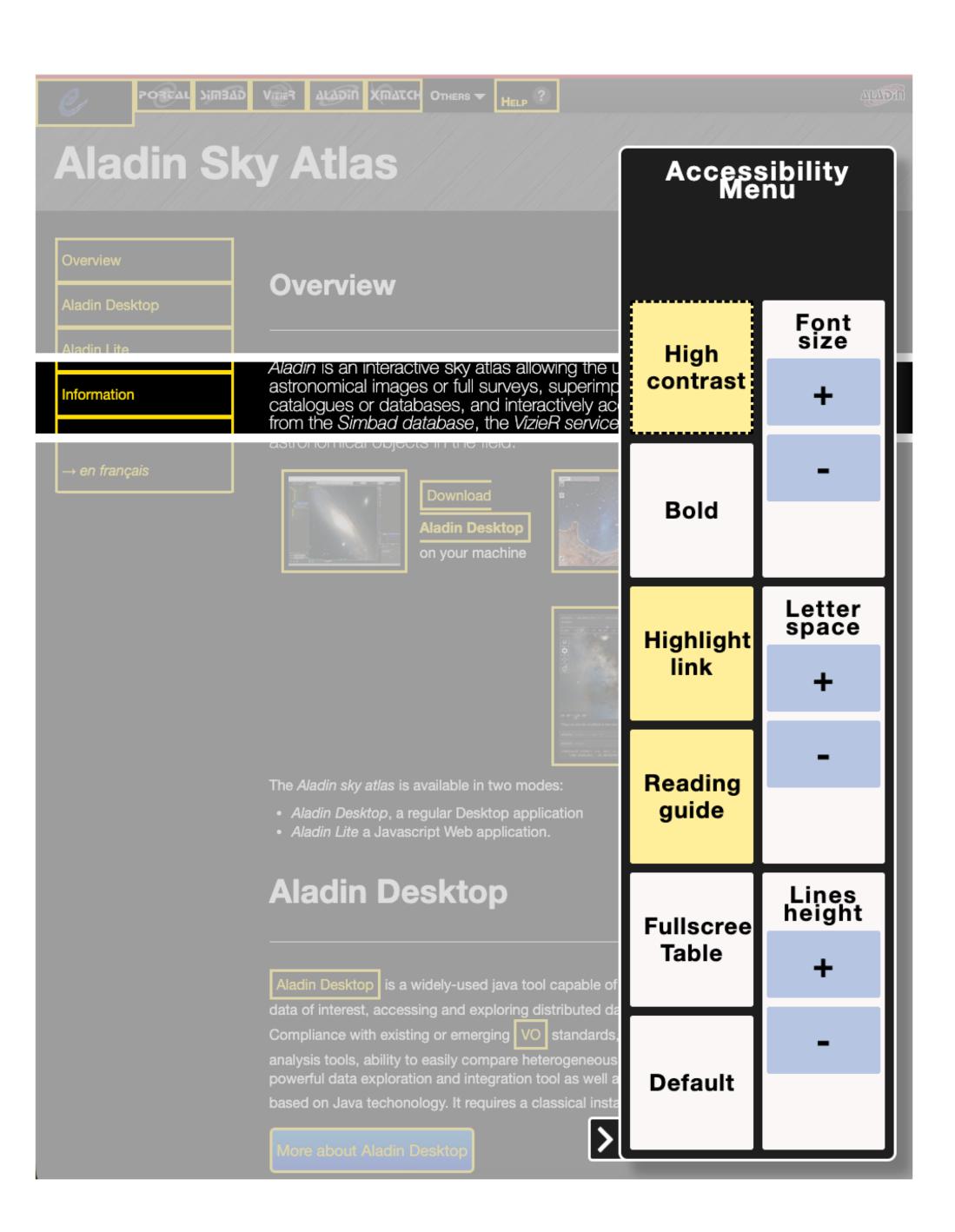
Ensure color contrast (minimum ratio 4.5:1).

Enable keyboard navigation for all interactive elements.

Use ARIA labels and semantic HTML.

Add captions and transcripts for videos.

Test sites with screen readers (JAWS, VoiceOver).



Next steps and Perspectives

Implementation in all the webpages, new sonification features, 3D printing, etc.

Even a small step can improve the user experience

highlight, enlarge etc.



