



Accessibility QA for eBooks: Are Automatic Tools Enough?

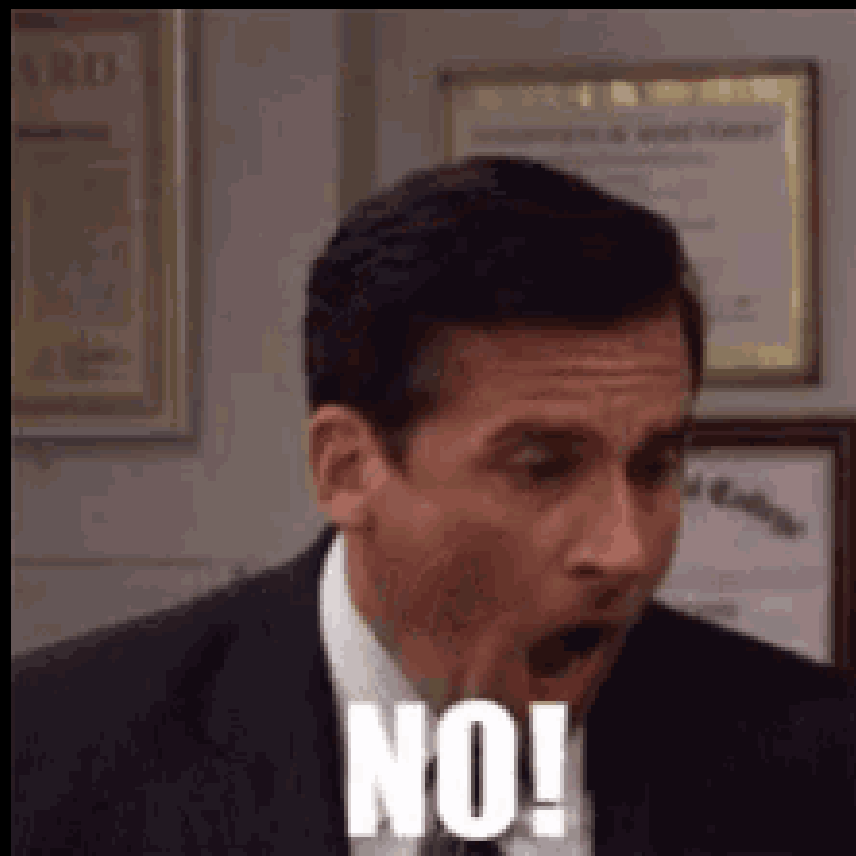
Gregorio Pellegrino

Chief Accessibility Officer @Fondazione LIA

Co-editor of:

W3C EPUB Accessibility 1.1 and User Experience Guide
for Displaying Accessibility Metadata 1.0

EPUB Accessibility - EU Accessibility Act Mapping



But don't worry: LIA is here to help!



A bit of background

My name is Pellegrino, Gregorio Pellegrino

- **First time at CSUN!**
- Italian **software engineer**
- Chief Accessibility Officer @ **Fondazione LIA**
- strong expertise in **accessible digital publishing**
- part of **working groups** on the accessibility of publications and format standards
- **Co-editor** of:
 - W3C EPUB Accessibility 1.1
 - User Experience Guide for Displaying Accessibility Metadata 1.0
 - EPUB Accessibility - EU Accessibility Act Mapping



**Fondazione LIA:
pioneer in ebook accessibility QA since 2014**



**WE WERE BORN ACCESSIBLE
BEFORE BORN ACCESSIBLE BECAME COOL**

Fondazione LIA is a non-profit foundation set up in 2014 by **Associazione Italiana Editori** (AIE) with **Unione Italiana dei Ciechi e degli Ipovedenti** (UICI), the Italian blind union.

In 2019 **Associazione Italiana Dislessia** (Italian Dyslexia Association) and the **Italian Library for the Blind "Regina Margherita"** of Monza joined the Foundation as institutional members.

17 publishing companies (with **76 publishing imprints**) and **MLOL**, the leading digital lending platform in Italy, are also members of the Foundation.



Our mission is **promoting books and reading** in all its forms through education, information, awareness and research in this area and **expanding access for print impaired people** to publishing products through research and technological innovation.

LIA is an active part of an international network



World Wide Web Consortium

NGO which aims to develop all the potential of the Internet and manages its standards

- Digital Publishing Business Group
- EPUB3 Community Group:
 - Accessibility Taskforce
 - Accessible EPUB Fixed Layout Taskforce
- Publishing Maintenance Working Group



Daisy Consortium

International consortium of organizations whose purpose is to promote accessibility

- European Inclusive Publishing Forum
- EPUB Test Evaluation of reading apps and devices
- Transition to accessible EPUB
- Better EPUB from InDesign



European Digital Reading Laboratory

Financed among others by the Ministry of Culture and the French Ministry of Development, aims to develop reading and DRM solutions that take into account accessibility

- Accessibility Working Group



International Organization for Standardization

The most important organization for the definition of technical standards

- OT UNI/CT 014/SC 04 "Automazione e documentazione"



EDItEUR

The organization that sets the standards used in the global book, ebook, audiobook and magazine supply chain

- Onix code list 196"

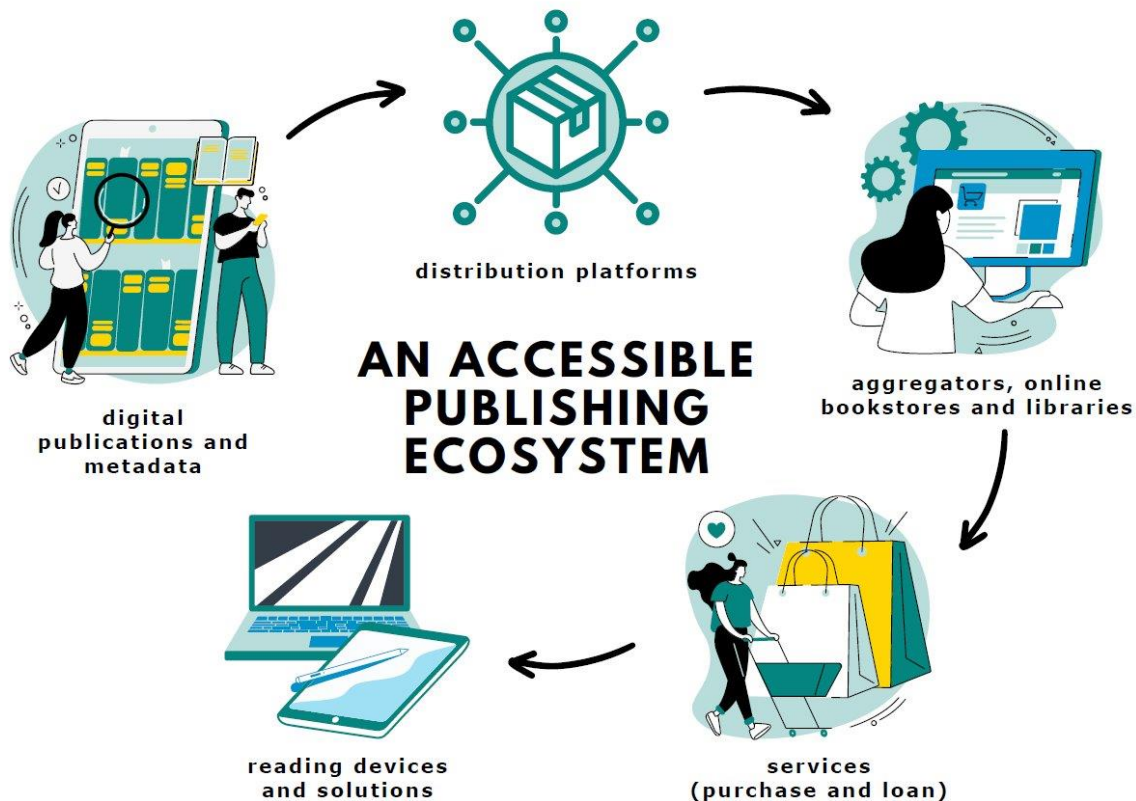


Schema.org

The organization that creates and maintains structured data schemas for online use

- Schema.org

An accessible digital ecosystem



Fondazione LIA works side by side with 78 publishing imprints to create and maintain [a catalogue](#) of born accessible books updated every day

+ 35.000

born and mainstream accessible Fiction and non-fictions ebooks

Quality control title by title

guarantees publishers, retailers and users

Mainstream Distribution channels

Online store, libraries
Aggregators
Books in Print Catalogue
+ information to Authorized Entities

The screenshot shows the LIA website interface. At the top, the logo 'FONDAZIONE LIA LIBRI ITALIANI ACCESSIBILI' is visible. Below it are navigation links for 'HOME' and 'CATALOGO'. The main content area is divided into several sections:

- GENERI** (Genres): A list of categories including NARRATIVA, SAGGISTICA, MANUALISTICA, RAGAZZI, and ALTRO.
- IL CATALOGO LIA** (The LIA Catalogue): A section with links for 'FONDAZIONE LIA. CHI SIAMO', 'EDITORI IN CATALOGO', and 'DOVE TROVARE GLI E-BOOK LIA'.
- COME LEGGERE** (How to Read): A section with links for 'GUIDA ALLA LETTURA DIGITALE' and 'GUIDA AGLI E-BOOK'.
- PROVA EBOOK ACCESSIBILE** (Try Accessible Ebook): A section with the text 'PROVA UN EBOOK ACCESSIBILE GRATIS'.
- AUTO E FAQ** (Help and FAQ): A section with a link for 'FAQ'.

On the right side, there are two book recommendations under a 'NOVITÀ' (New) banner:

- Ultima notte a Manhattan** by Don Winslow, published by Einaudi, priced at €9,99. The cover shows a cityscape at night.
- Una terra promessa** by Barack Obama, published by Garzanti, priced at €14,99. The cover shows a portrait of Barack Obama.

Title by title certification as a seal of approval for the whole ecosystem



- are confident that their publication meets the requirements of accessibility standards
- receives rich accessibility metadata

Content producers

- receives accessible publications checked by a third party
- receives quality metadata

Digital distribution platforms

- offer quality accessible publications and truthful metadata to their end users

Services for purchase and loan

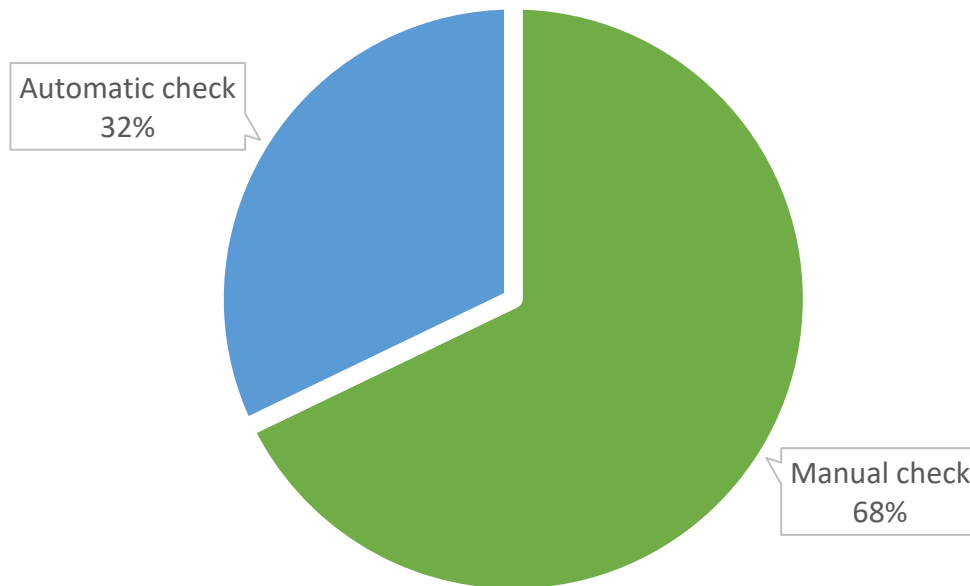
- trust the quality assured by the third-party entity
- are assured that the publication will meet their needs
- can read high-quality ebooks

End users

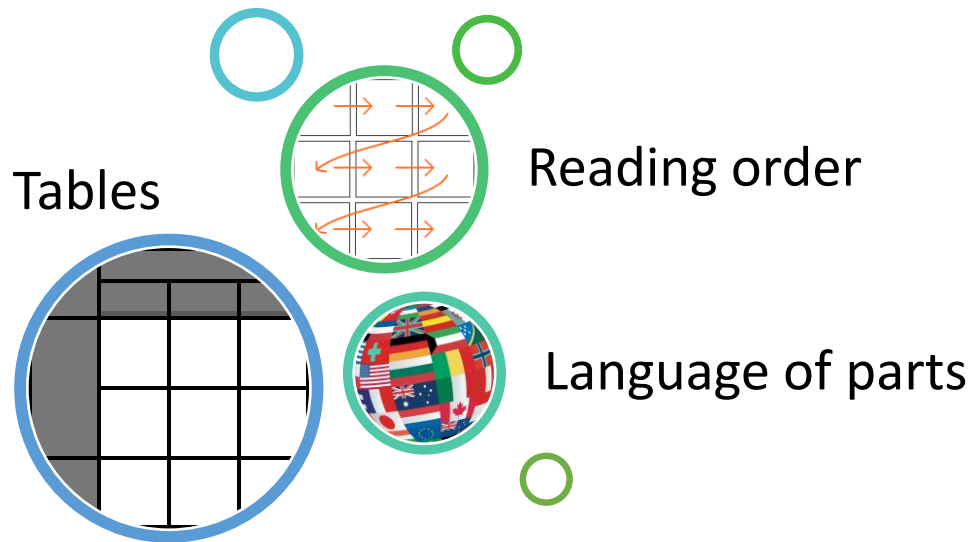
Challenges in automated accessibility checks

Not all accessibility requirements can be programmatically checked

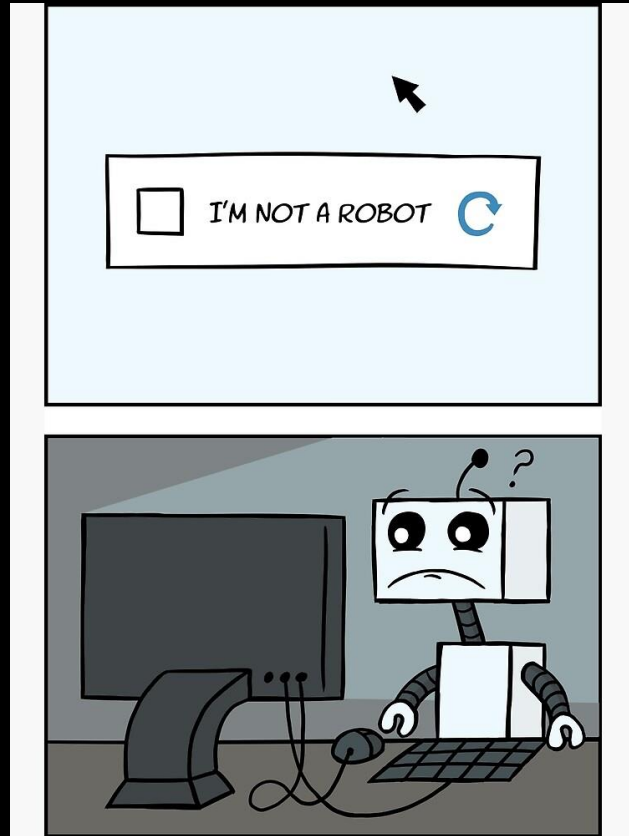
How serious accessibility issues can be found



Automated accessibility testing tools cannot assess all the requirements of EPUB Accessibility and WCAG because some criteria require human judgment or context understanding.



To be 100% compliant a human in the loop is needed!

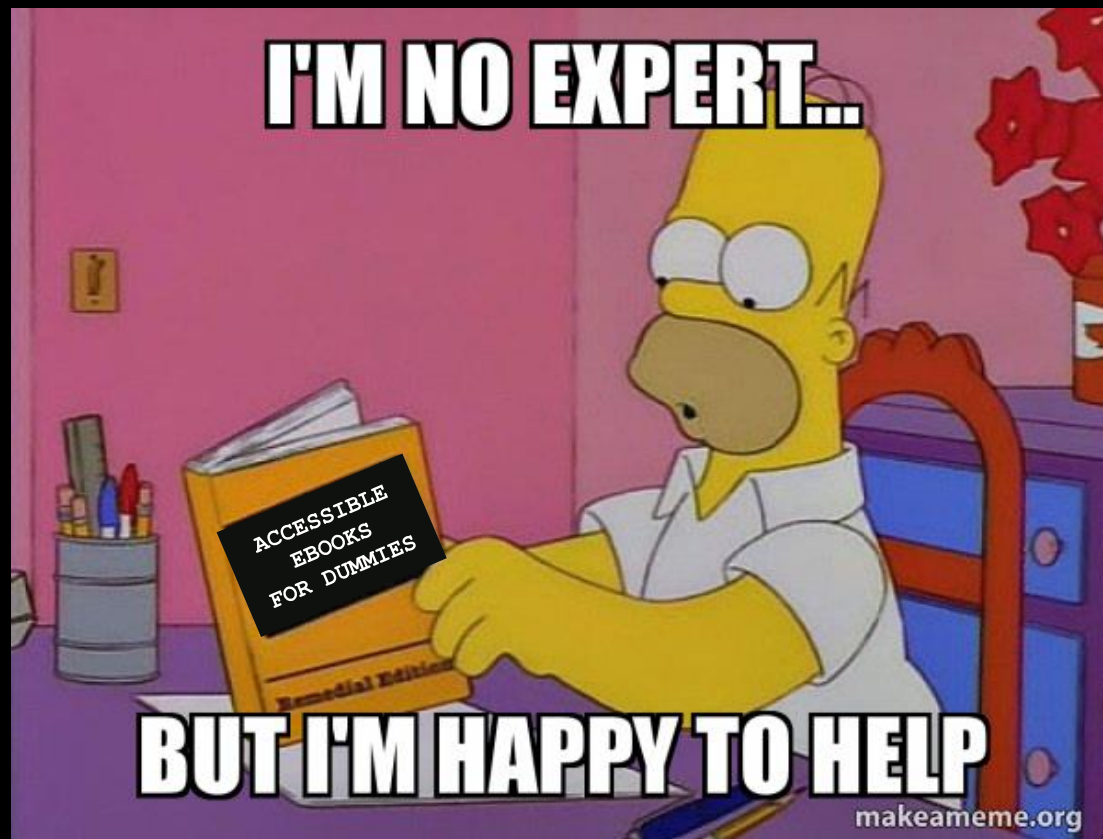


They don't know
automatic checkers
are not enough



LIA receipt for ebook Quality Assurance

There is probably a need for an expert



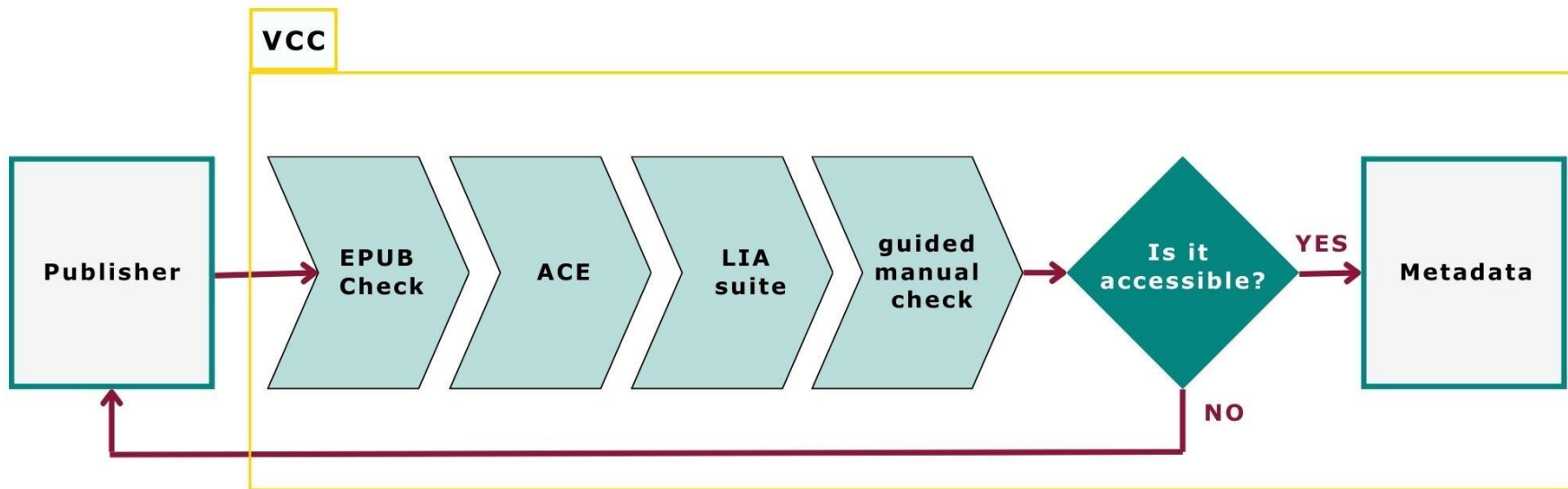
LIA receipt: human + machine

- We have developed a **system for ebook Quality Assurance title-by-title** that benefits from the best of machines and the best of humans:
 - **Methodology + internally developed tools + IT infrastructure**
- At the end of the checking process, **accessibility metadata are automatically generated**
- We have very **qualified in-house staff** who specialize in accessible digital publishing (not easy to find!)
- We stay **constantly up-to-date** on new standards and evolving technologies (thanks to work in Working Groups)
- We offer **support to content producers** who don't know how to make their content accessible

In union there is strength: human + machine



An IT infrastructure to provide a high level of Quality Assurance title-by-title based on standards



What about AI?

AI according to the news:



AI in real life:

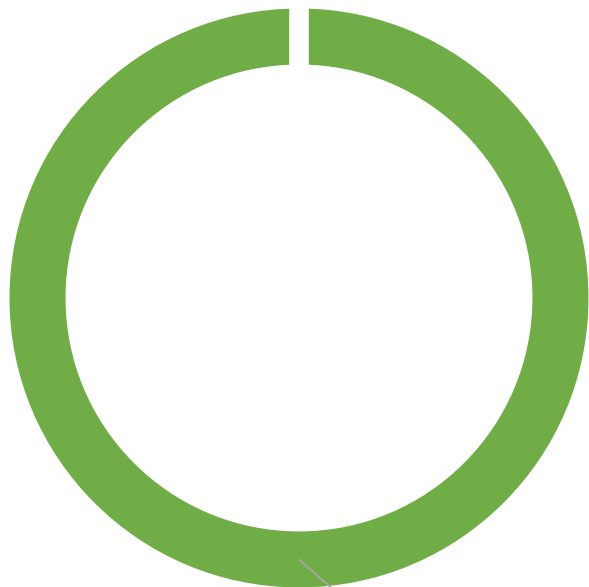


Common accessibility issues found in ebooks

LIA experts have analyzed more than 400 ebooks declared as "accessible"

automatic tools

Major accessibility issues: 0%

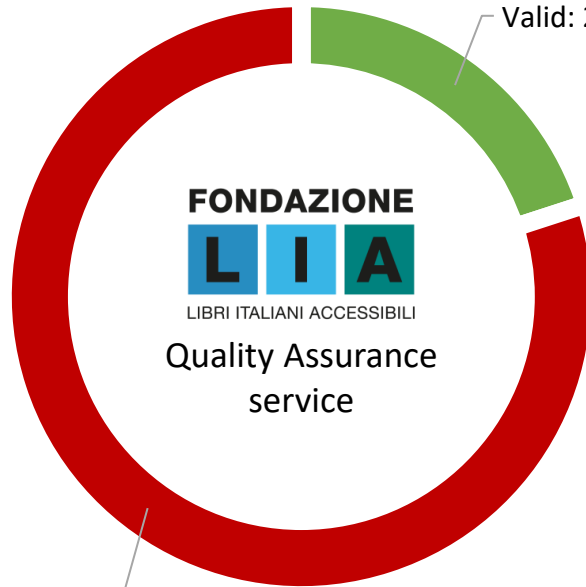


Valid: 100%



LIA QA

Valid: 20%



FONDAZIONE
LIA
LIBRI ITALIANI ACCESSIBILI
Quality Assurance
service

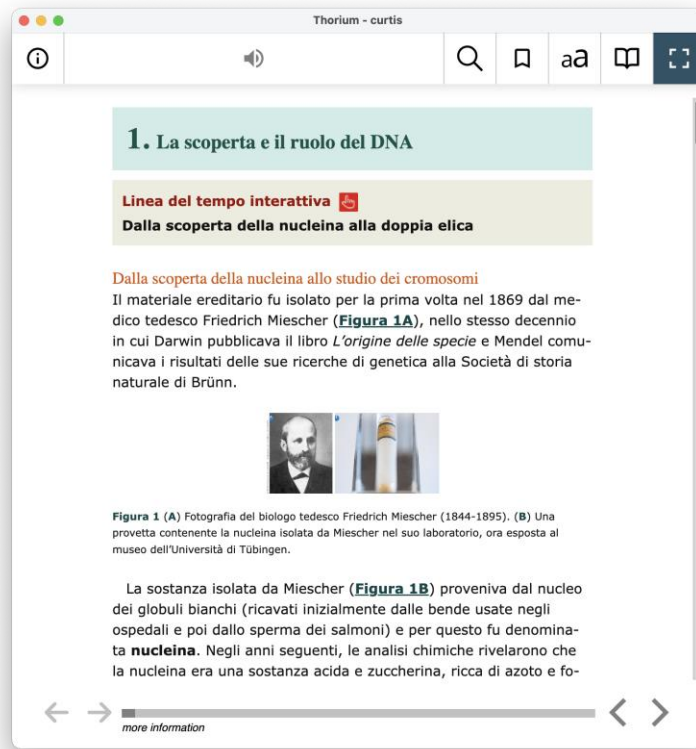
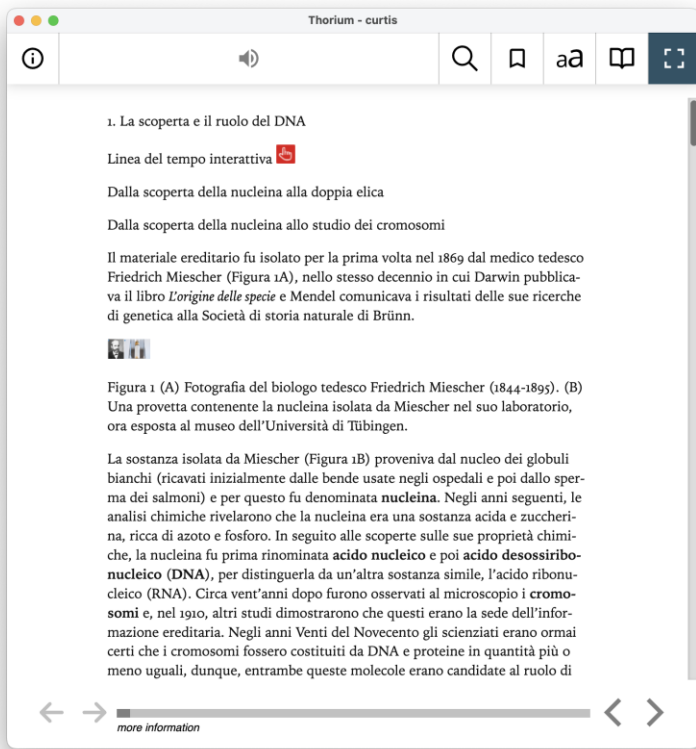
Major accessibility issues: 80%

Most frequently accessibility issues in ebooks declared as “accessible”

- Alternative text for images not meaningful
- Images of text with wrong description
- Words of indeterminate language
- Missing semantic tagging
- Semantic tagging used for visual effect
- Content identified only by color
- Accessibility metadata that does not reflect the actual content

Best practices for content producers

An accessible ebook is a high-quality ebook for everyone



Recommendations for content producers

- **Study** accessibility specifications
- Understand how to use **authoring tools** in an accessible way
- **Plan** your work with accessibility in mind from the beginning
- **Ask an expert** when you don't know

And then... test!

FONDAZIONE



LIBRI ITALIANI ACCESSIBILI

Use automated
in-house tools

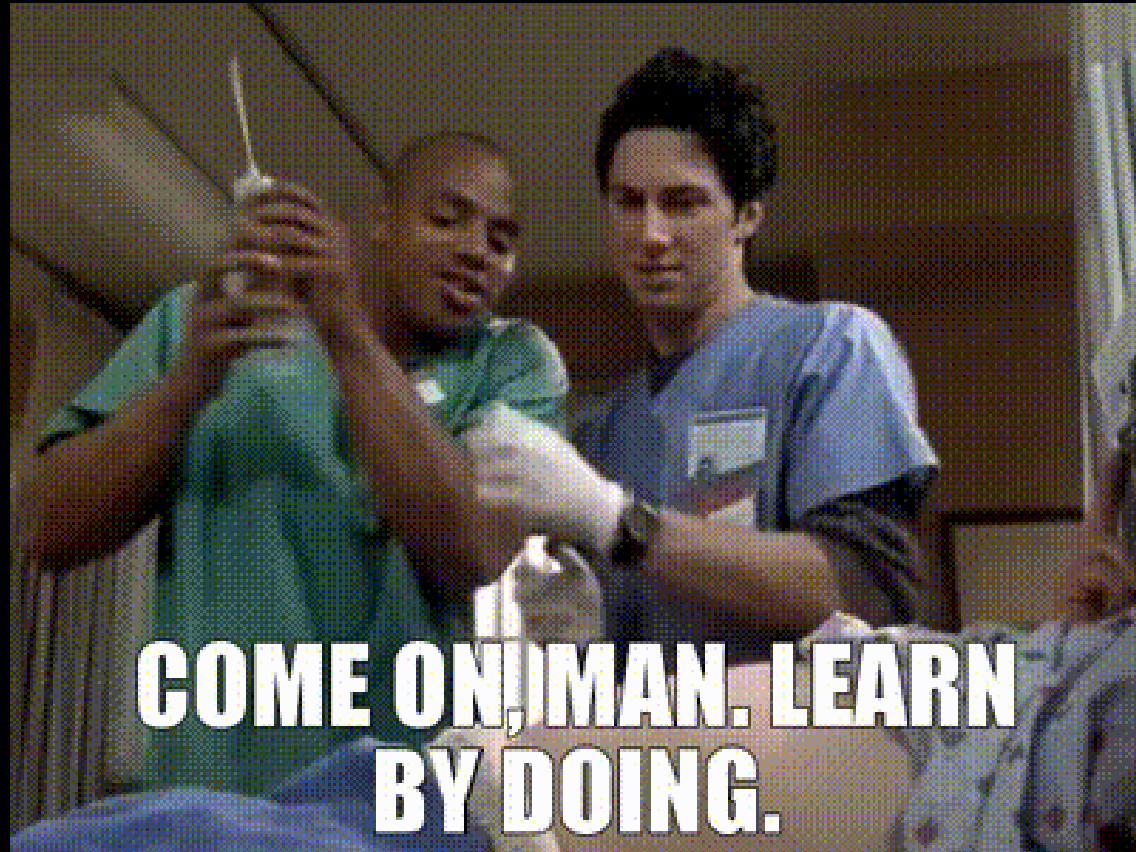
- to check the publication as it is being created
- ensure that the minimum level of accessibility is achieved

Rely on experts
for accessibility
checking

- for custom tests and manual checks
- for metadata creation
- rely on experienced accessible digital publishing auditors

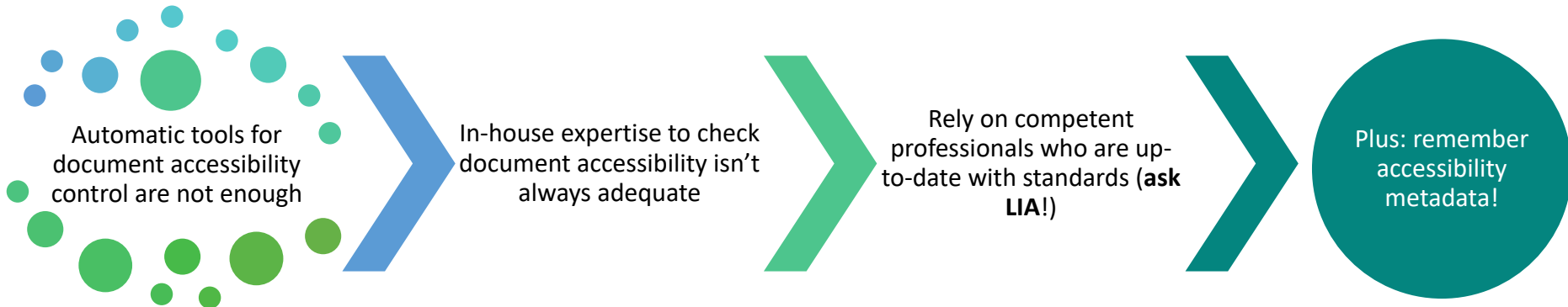
Accessible
publication!

You may also get a side effect...



To recap...

How to assure that publications are accessible



- Best to rely on third-party experts
- Avoid "simple" solutions
- To avoid nasty surprises

© Giacinto Gaudenzi, Pinocchio, il Gatto e la Volpe



To measure the gap between how accessible you think a document is and how accessible it really is...



Q&A

ANY QUESTION?



NO HARD QUESTIONS PLEASE..



Thanks for your attention

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Fondazione LIA
Corso di Porta Romana 108
20122 Milano
Tel. (+39) 02 89280808
segreteria@fondazionelia.org
www.fondazionelia.org