

$\text{\LaTeX}$ PDF accessibility

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August 27, 2025

The pdf of this talk and other resources will be posted online, so you don't need to write down what you see here.

Update $\LaTeX$, use

```
\DocumentMetadata{lang=en,tagging=on,pdfstandard=ua-2,  
  tagging-setup={math/setup=mathml-SE,math/alt/use}}  
\documentclass{article}  
...  
\usepackage{unicode-math}  
\title{...}
```

compile with Lua $\LaTeX$, and maybe it all works just fine.

$\text{math/alt/use} \Leftrightarrow \text{Blackboard}$

Optional warmups: `\RequirePackage{nag}` xor

`pdfstandard=ua-1,pdfversion=1.7` (but not `math/setup=mathml-SE`)

Basic idea

Use $\text{\LaTeX}$ so that the output looks how you want it
and the input reflects the meaning.

After the basics — Tables

- `\tagpdfsetup{table/header-rows={...},table/header-columns={...}}`
(lasts until the group `\ends`)
- `\tagpdfsetup{table/multirow={...}}`
- Interface will probably change

After the basics — Images

- `\includegraphics[alt={...}]`
- `\tikz[alt={...}]`
- `\begin{tikzpicture}[alt={...}]`
- `\begin{picture}[alt={...}]`

Alternatives to `alt={...}` are `artifact` and `actualtext={...}`.

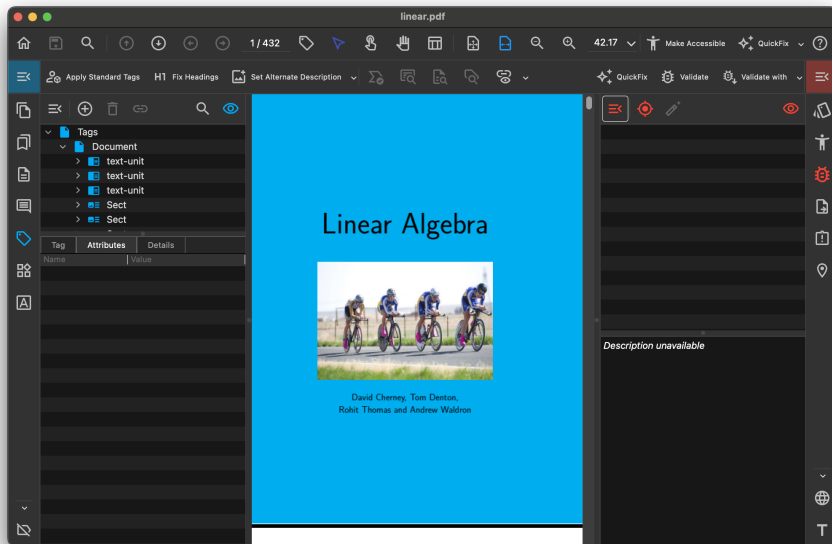
TTaDA: Making Simple Images Accessible

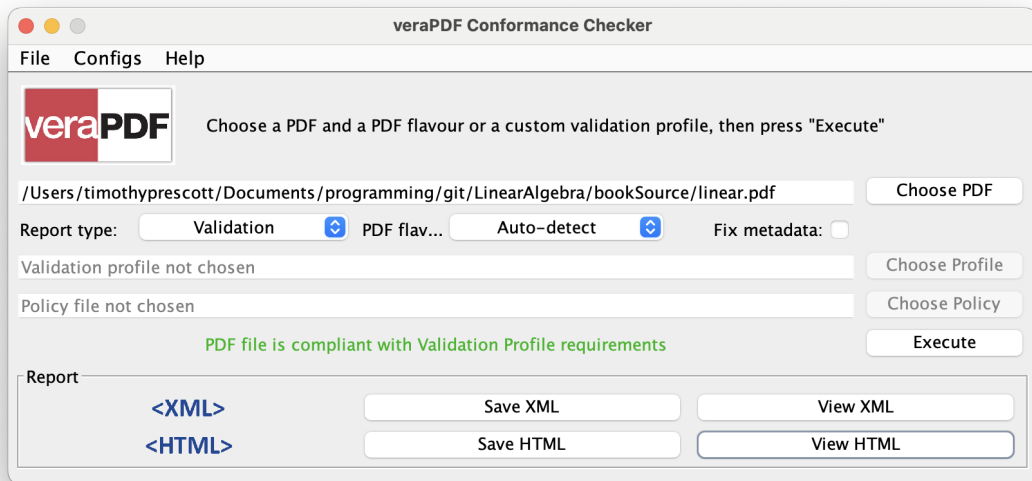
- At most 120 characters or 1–2 sentences
- Usually not seen
- Specific, accurate, objective, neutral
- What does my audience need from this picture?
- Do not begin with “image”
- Do not repeat the caption
- Artifact/decorative $\Leftrightarrow$ unnecessary

TTaDA: Making Complex Images Accessible

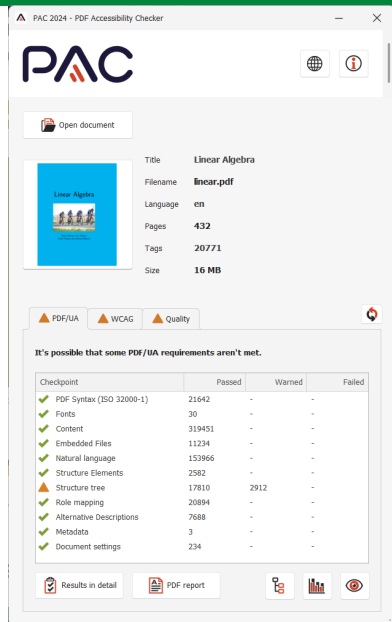
If alt text would require more than 120 characters or 1–2 sentences:

- Write it up separately
- Alt text sentence 1: what it is
- Alt text sentence 2: where to find the separate description





PAC — <https://pac.pdf-accessibility.org/en>



A bit more streamlined, but:

- Windows only
- maxes out at UA-1/1.7
- objects to bug in pgfplots
- has a bug with tables
- doesn't like multi(row/column)

Replacements & Adjustments

- `enumitem` & `enumerate` → `enumext` or nothing (new syntax)
- Beamer → `ltx-talk` (`lualatex-dev`, mostly same syntax)
- Some packages need some (or a lot of) help (`tcolorbox`, `titlesec`, `qrcode`, `media9`)

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Instructor Information

- See your syllabus in Blackboard for your instructor's information
- Required Materials: ALEKS Access Code & Course Notebook
 - Course Notebook can only be purchased at the UND bookstore.
 - ALEKS access can be purchased directly from ALEKS or at the bookstore.
 - Math 103 has Inclusive Access — see syllabus for more information

Fall 2025



- UND green is $\text{RGB}(0, 158, 68) = \text{Hsb}(146, 1, 0.62)$
- UND orange is $\text{RGB}(255, 103, 31) = \text{Hsb}(19, 0.88, 1)$
- Insufficient contrast with white?
- Add 13% and 22% black.
- Also red with white (hyperref)

For more information

- <https://latex3.github.io/tagging-project/documentation/prototype-usage-instructions.html>
- <https://latex3.github.io/tagging-project/tagging-status/>
- texdoc: documentmetadata-support-code, latex-lab-table, enumext, ltx-talk
- <https://www.texdev.net/ltx-talk/examples/>
- Much longer compilation (Talon), needs more memory
- https://www.youtube.com/watch?v=Eu_qM53tInw&t=5900s A before and after example

Current status

Document	BB Ally	UND.edu SiteImprove	PAC UA-1	VeraPDF		LaTeXML
				UA-1	UA-2	
Math Track Meet Dec 2023	Y	Y	Y	Y	Y	Y
Math Track Meet 2025	Y	Y	Y	Y	Y	Y
Calculus	Y	Y	N	Y***	N	
Linear Algebra	Y	“Y”	Y*	Y*	Y*	Y*
this talk	Y	“Y”	Y*	Y*	Y*	N
MALL syllabus × 37	Y	“Y”	Y*	Y*	Y*	Y*
Simple Syllabus	N	“N”	N	N	N	N/A

“Presumed”, *With help

Calculus: PAC: Multi(row/column), pgfplots

UA-2: caption, intertext{math}, media9

Promised Resources

`https://sites.und.edu/timothy.prescott/accessible`

