

Accessibility for Content Creators

Prepared by:

Michael Wayne Harris YC '09

Yale ITS User Experience & Digital Strategy

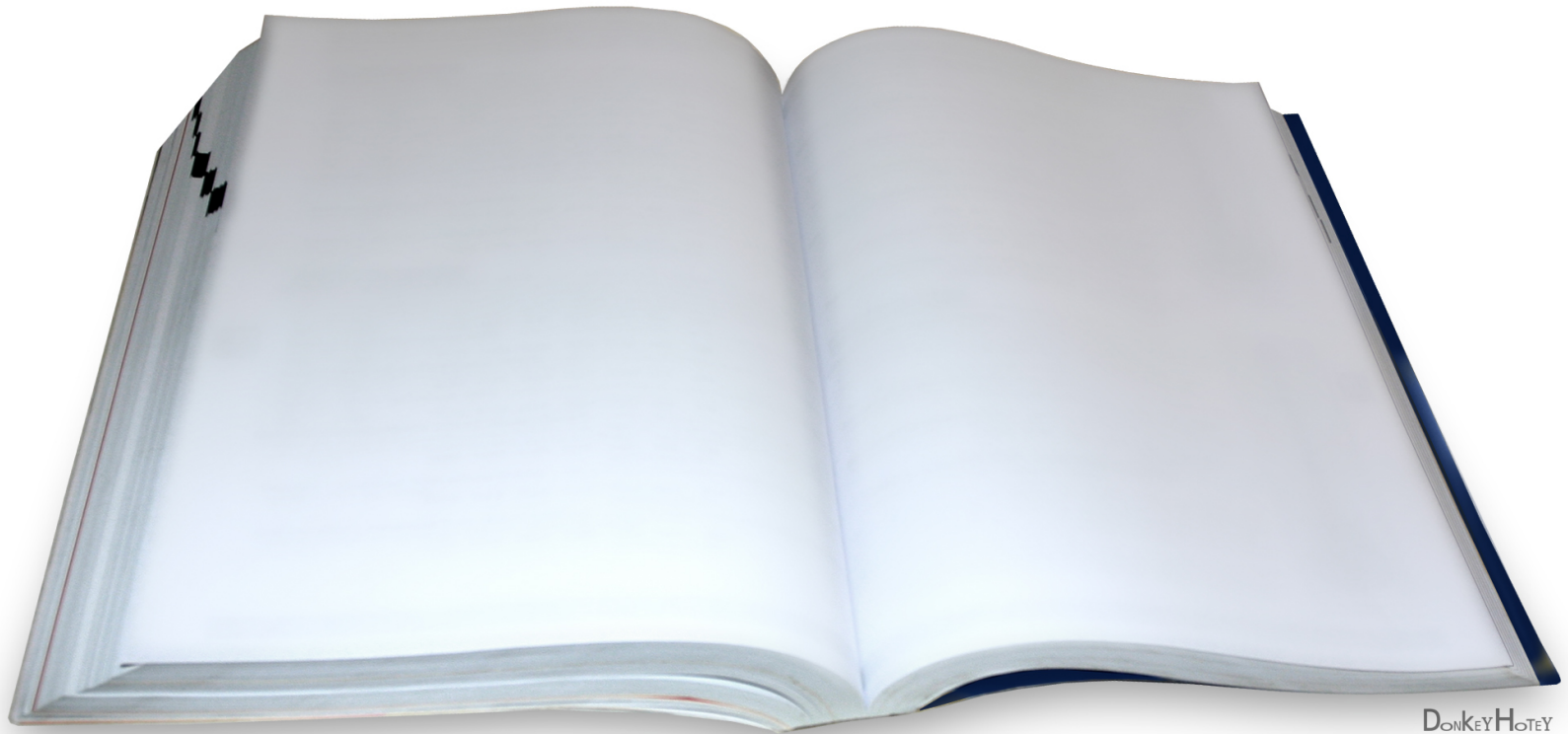
Agenda

- What is accessibility and why should I care about it?
- What should I know before I start a new project?
- I already have a web project. What should I do?

*What is accessibility and why should
I care about it?*



Yale *Information Technology Services*



DONKEYHOTEL

Yale *Information Technology Services*

“The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect.”

— Tim Berners-Lee, inventor of the World Wide Web

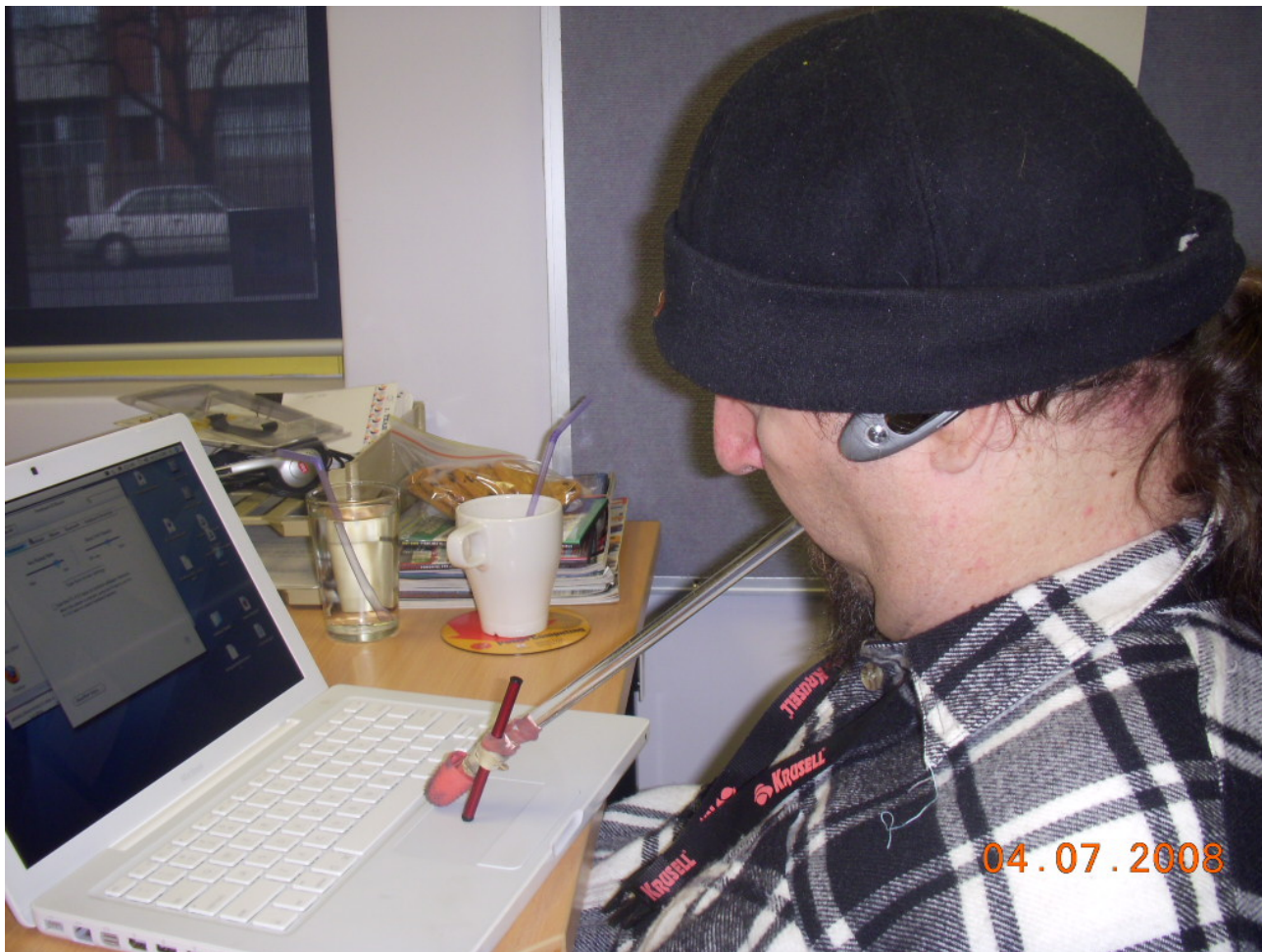
Types of Disabilities

- Visual
 - Blindness, color blindness, low vision
- Auditory
- Physical and Motor
- Cognitive and neurological
 - Comprehension, attention, problem solving, cognitive overload, seizure, memory

Visual



Motor



Dyslexia

Dyslexia is characterized by difficulty with reading, writing, and spelling. It is a learning disability that affects the ability to process written language. Symptoms include slow and inaccurate reading, difficulty understanding what is read, and trouble remembering words. Dyslexia is not a result of low intelligence or lack of motivation. It is a neurological condition that affects the brain's ability to process written language.

Developmental Dyscalculia (DD) is a learning disability that affects the ability to understand and work with numbers. It is characterized by difficulty with basic arithmetic, understanding numbers, and solving math problems. DD is not a result of low intelligence or lack of motivation. It is a neurological condition that affects the brain's ability to process numerical information.

Assistive Technology

Technology designed to help people with disabilities use computers, including:

- Screen readers, screen magnifiers, Braille devices
- Captions, transcripts
- Keyboards, mouth sticks, voice activated technologies

Accessibility Guidelines

Web Content Accessibility Guidelines (WCAG)

- Version 2.0: 2008; Version 1.0: 1999
- A sliding scale of accessibility: A, AA, AAA
- 4 Principles:
 - **P**erceivable
 - **O**perable
 - **U**nderstandable
 - **R**obust
- <https://www.w3.org/TR/WCAG20/>

Objections to Accessibility

Limited Benefits

- Benefits are important for people with disabilities
 - “UN ... recognizes access to information and communications as a **basic human right**” (W3C)
 - Accessibility supports social inclusion (W3C)

For example

- Per the National Federation of the Blind, people with a visual disability...
 - 30% live below the poverty line
 - Median Household Income: \$36,500 (\$52,000 for the US)
 - 21.2% lack health insurance
 - 60% are not employed
 - 86.3% do not have a Bachelor's Degree (age 21-64)

Limited Benefits (cont'd)

- People without disabilities also benefit from accessibility
 - Transcripts and captions
 - Easier processes to complete / easier forms to fill out
 - Easier legibility

Type the characters you see in the picture below.

A red cursive image of the text "parthstfu". The letters are stylized and connected, with a prominent 'p' at the start and a 'u' at the end.

Letters are not case-sensitive

Prohibitive Costs

- Many accessibility enhancements do not require special technical expertise or excessive time
 - Simplifying content
 - Adding descriptive text to images
 - Using an appropriate heading structure
- Costs can be minimized by planning for accessibility from a project's beginning.

Aesthetics

- Many accessibility improvements are visible only to users with assistive technology
 - Additional text for screen readers
 - Some visual effects are only seen by users who don't use a mouse
- Compare web accessibility with building accessibility

What should I know before I start a new project?

Learn about your audience

- Are there any populations in particular you know you need to prepare for:
 - Students
 - The elderly
 - Non-native English speakers
 - People in other countries
 - People on mobile phones

Be honest about your org

- Know the limits of how much money and manpower you have
 - How many people will be maintaining the project once completed?
 - What kinds of expertise will those people have? How will they get training to maintain the project once completed?
 - Prioritize your needs and requirements

Know your resources

- Yale ITS
 - YaleSites
 - User Experience and Digital Strategy
 - Vendor Management
 - usability.yale.edu
- Resource Office on Disabilities
 - rod.ys.yale.edu

Ask the right questions

- Ask vendors, designers, developers, whoever will be working on the project the right questions:
 - Are you familiar with WCAG 2.0?
 - Are you familiar with ARIA?
 - Have you done accessibility work before?
 - What is your process like for ensuring accessibility?

PALEONTOLOGY

Meet a monster

A Yale-led team of paleontologists provided new insights into a 300-million-year-old creature from the same lineage as the

```
ription single_flex_feature_description body_text"
ooter single_flex_feature_footer">
on single_flex_feature_button button_bordered_dust
aria-labelledby="single_flex_feature_title6406" h
mystery-tully-monster">...</a>
on_icon_right_arrow color_white single_flex_archiv
ture-archive">The Feature Archive</a>
```

LEARN MORE ▶

Other leadership roles at Yale have included: chair of the [Department of Psychology](#) from 2000 to 2003; dean of the [Graduate School of Arts and Sciences](#) in 2003 and 2004; and dean of [Yale College](#) from 2004 to 2008.

Other leadership roles at Yale have included: chair of the Department of Psychology from 2000 to 2003; dean of the Graduate School of Arts and Sciences in 2003 and 2004; and dean of Yale College from 2004 to 2008.



Yale *Information Technology Services*



Y Peter Salovey, A.B., '86 Ph.D. x


← → ↻ www.yale.edu/about-yale/president-leadership/university-leaders/peter-salovey ☆ W ☰

Apps CSS Terminal

Peter Salovey, A.B., '86 Ph.D.

PRESIDENT

Peter Salovey is the 23rd president of Yale University, and the Chris Argyris Professor of Psychology. His presidential term began in July 2013.



Prior to becoming president, Salovey served as the [provost](#) of Yale University from 2008 to 2013. As provost, Salovey facilitated strategic planning and initiatives such as: enhancing career development and mentoring opportunities for all Yale faculty members; promoting faculty diversity; creating the Office of Academic Integrity; establishing the University-wide Committee on Sexual Misconduct; developing the

- Office of the President
- Office of the Provost
- University Leaders
- The Yale Corporation
- Deans
- Governance & Historic Documents

[Office of the President](#)

The Office of the President

Y Peter Salovey, A.B., '86 Ph.D. x


← → ↻ www.yale.edu/about-yale/president-leadership/university-leaders/peter-salovey ☆ W ☰

Apps CSS Terminal

Peter Salovey, A.B., '86 Ph.D.

PRESIDENT

Peter Salovey is the 23rd president of Yale University, and the Chris Argyris Professor of Psychology. His presidential term began in July 2013.



Prior to becoming president, Salovey served as the provost of Yale University from 2008 to 2013. As provost, Salovey facilitated strategic planning and initiatives such as: enhancing career development and mentoring opportunities for all Yale faculty members; promoting faculty diversity; creating the Office of Academic Integrity; establishing the University-wide Committee on Sexual Misconduct; developing the

- Office of the President
- Office of the Provost
- University Leaders
- The Yale Corporation
- Deans
- Governance & Historic Documents

Office of the President

The Office of the President

System Name	System Status
System 1	
System 2	
System 3	
System 4	
System 5	
System 6	
System 7	
System 8	

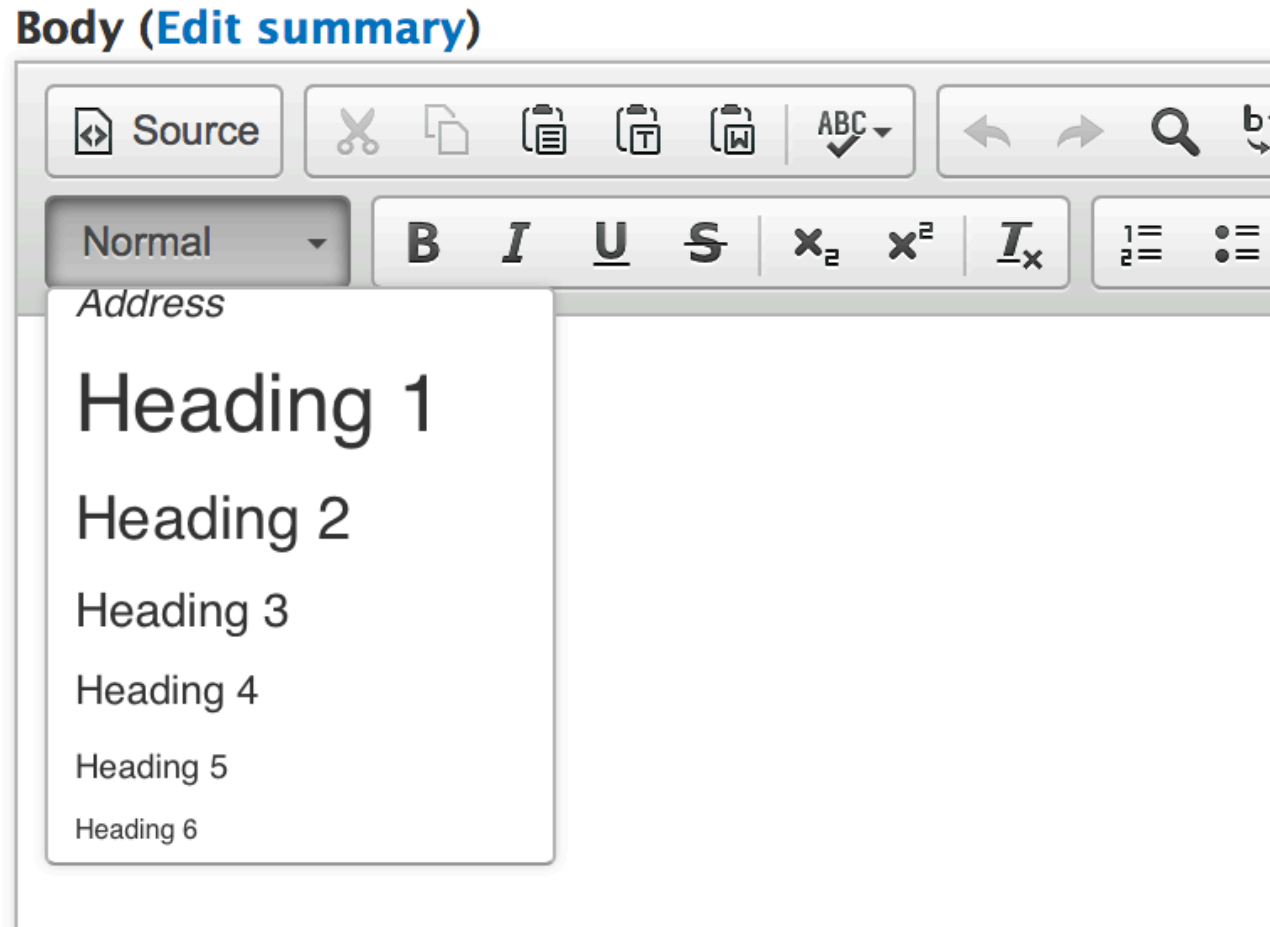
System Name	System Status
System 1	
System 2	
System 3	
System 4	
System 5	
System 6	
System 7	
System 8	

I already have a web project. What should I do?

DON'T: abuse the text editor

- Use the proper heading level
 - Don't pick headings just on how they look.
 - Use H2, then H3, then H4
- Don't use **bold** when you mean to use a heading instead
- Don't change colors, background colors, or fonts; keep the defaults
- Don't use tables for layout. Don't add styles to tables
- Don't underline anything

DON'T: abuse the text editor



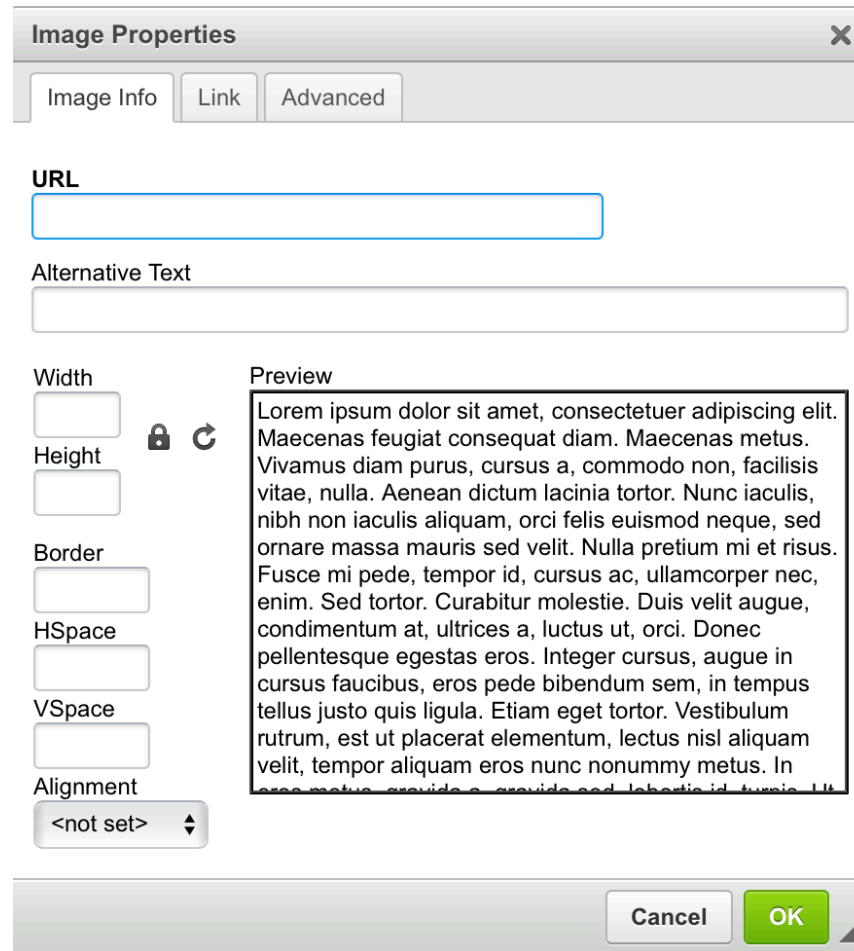
DO: add “alt” text to images

Since blind people cannot see images on a site, screen readers must describe the image that’s on the page.

Informational images require “alt” text.

Purely decorative images do not require “alt” text.

DO: add “alt” text to images



The image shows a screenshot of a web browser's 'Image Properties' dialog box. The dialog has three tabs: 'Image Info', 'Link', and 'Advanced'. The 'Image Info' tab is selected. It contains the following fields and options:

- URL:** An empty text input field.
- Alternative Text:** An empty text input field, which is highlighted with a blue border.
- Width:** An empty text input field.
- Height:** An empty text input field.
- Border:** An empty text input field.
- HSpace:** An empty text input field.
- VSpace:** An empty text input field.
- Alignment:** A dropdown menu currently set to '<not set>'. To the right of the width and height fields are a lock icon and a refresh icon.
- Preview:** A text area containing a paragraph of Lorem Ipsum text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas feugiat consequat diam. Maecenas metus. Vivamus diam purus, cursus a, commodo non, facilisis vitae, nulla. Aenean dictum lacinia tortor. Nunc iaculis, nibh non iaculis aliquam, orci felis euismod neque, sed ornare massa mauris sed velit. Nulla pretium mi et risus. Fusce mi pede, tempor id, cursus ac, ullamcorper nec, enim. Sed tortor. Curabitur molestie. Duis velit augue, condimentum at, ultrices a, luctus ut, orci. Donec pellentesque egestas eros. Integer cursus, augue in cursus faucibus, eros pede bibendum sem, in tempus tellus justo quis ligula. Etiam eget tortor. Vestibulum rutrum, est ut placerat elementum, lectus nisl aliquam velit, tempor aliquam eros nunc nonummy metus. In...

At the bottom of the dialog are 'Cancel' and 'OK' buttons.

DO: make link text clear

- Sighted people do not read every word on a webpage. Often, they scan.
- Blind people use their screen readers to “scan” a page by only reading out the links on the page.
- Links should be as clear to blind people as to sighted people.

DO: make link text clear

To fill out the application form, [click here](#). To see instructions for how to fill out the form, [click here](#).

DO: make link text clear

click here

click here

DO: make link text clear

Applicants should fill out the [Program Application Form](#). Please see the [instructions for completing the application form](#) for assistance.

DO: make link text clear

[Program Application Form](#)

[instructions for completing the application form](#)

DO: simplify your content

- Writing for the web is fundamentally than writing for other media.
- Paragraphs should generally be shorter than 80 words; sentences should not be complicated.
- Use lists, not paragraphs
- Use a reading level estimator; aim for high school level text.
 - <https://readability-score.com>

DO: be careful with videos

- Try not to use videos unless they are absolutely necessary
- If you do use videos, link to a version with captions
- Add captions in YouTube; do not rely on automatic captions.
- Prefer “talking head” videos to videos containing action
- Provide a transcript

DO: use web pages, not files

- If possible, include information in a page rather than a file.
- Word documents and PDFs can be made accessible, but it requires time, effort, and software (e.g. Acrobat Pro)

Resources

- usability.yale.edu
- <https://www.w3.org/WAI/>
- <http://webaim.org>
- accessibility.psu.edu
- <https://wave.webaim.org/toolbar/>
- <http://webaim.org/resources/contrastchecker/>

Questions?

Contact us:
Michael.w.harris@yale.edu

uxdigitalstrategy.yale.edu
usability.yale.edu

Attributions

All images Copyright CC 2.0 unless stated otherwise.

creativecommons.org/licenses/by/2.0

- “Stairs”, tami.vroma,
<https://flic.kr/p/5B7TYa>
- “Blank Open Book”, DonkeyHotey,
<https://flic.kr/p/9GVkY5>
- “Glaucoma”, National Eye Institute,
<https://flic.kr/p/cuGJHA>
- “pogo4”, David Wallace,
<https://flic.kr/p/51VHZA>