



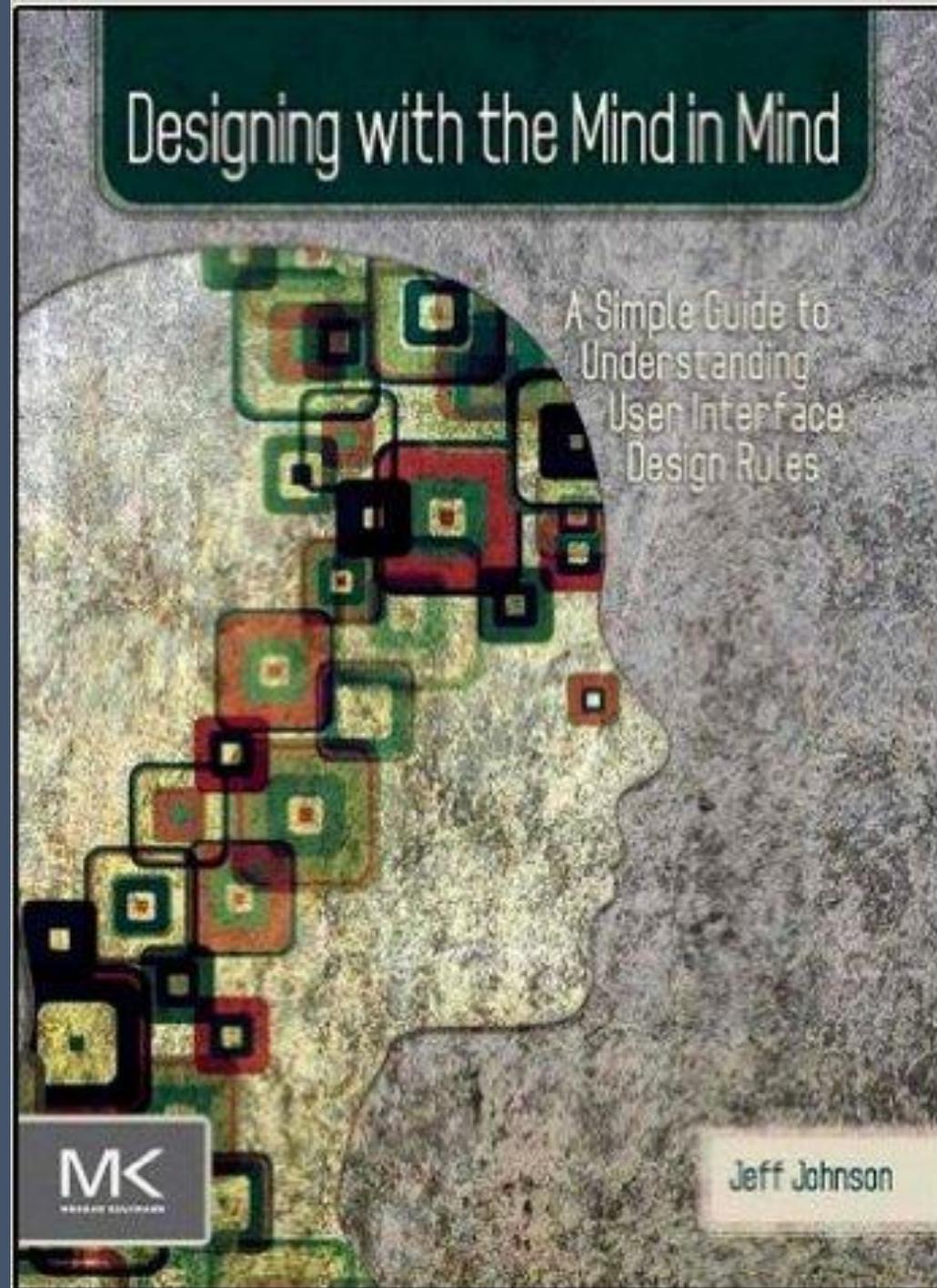
HCI: NAVIGATION AND ACCESSABILITY

Dr Kami Vaniea

First, the news...

- The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information
- https://en.wikipedia.org/wiki/The_Magical_Number_Seven%2C_Plus_or_Minus_Two

Many of the examples in this lecture are drawn from this book



Thursday we
discussed
website layout

The website to
the right is an
example of how
structure can be
used to help
users scan and
find information

Predatory Loans

Most mortgage professionals are trustworthy and provide a valuable service, helping you to buy or refinance your home. But dishonest or "predatory" lenders do exist and engage in practices that increase the chances of borrowers losing their homes to foreclosure. To avoid becoming a victim of predatory lending, you need to understand the process to buy a home and be a smart consumer.

What Is Predatory Lending?

Predatory lenders, appraisers, mortgage brokers and home improvement contractors could use any of these tactics to take away your home or investments:

- Sell properties for much more than they are worth using false appraisals.
- Encourage borrowers to lie about their income, expenses, or cash available for down payments in order to get a loan.
- Knowingly lend more money than a borrower can afford to repay.
- Charge high interest rates to borrowers based on their race or national origin and not on their credit history.
- Charge fees for unnecessary or nonexistent products and services.

Avoid Predatory Loans by Being a Smart Consumer

To avoid becoming a victim of predatory lending, follow these guidelines:

- Before you buy a home, attend a homeownership education course offered by a U.S. Department of Housing and Urban Development (HUD)-approved, non-profit [counseling agency](#).
- Interview several real estate professionals (agents), and ask for and check references before you select one to help you buy or sell a home.
- Get information about the prices of other homes in the neighborhood. Don't be fooled into paying too much.
- Hire a qualified and licensed home inspector to carefully inspect the property before you are obligated to buy. Determine whether you or the seller will be responsible for paying for the repairs.
- Shop for a lender and compare costs. Be suspicious if anyone tries to steer you to just one lender.

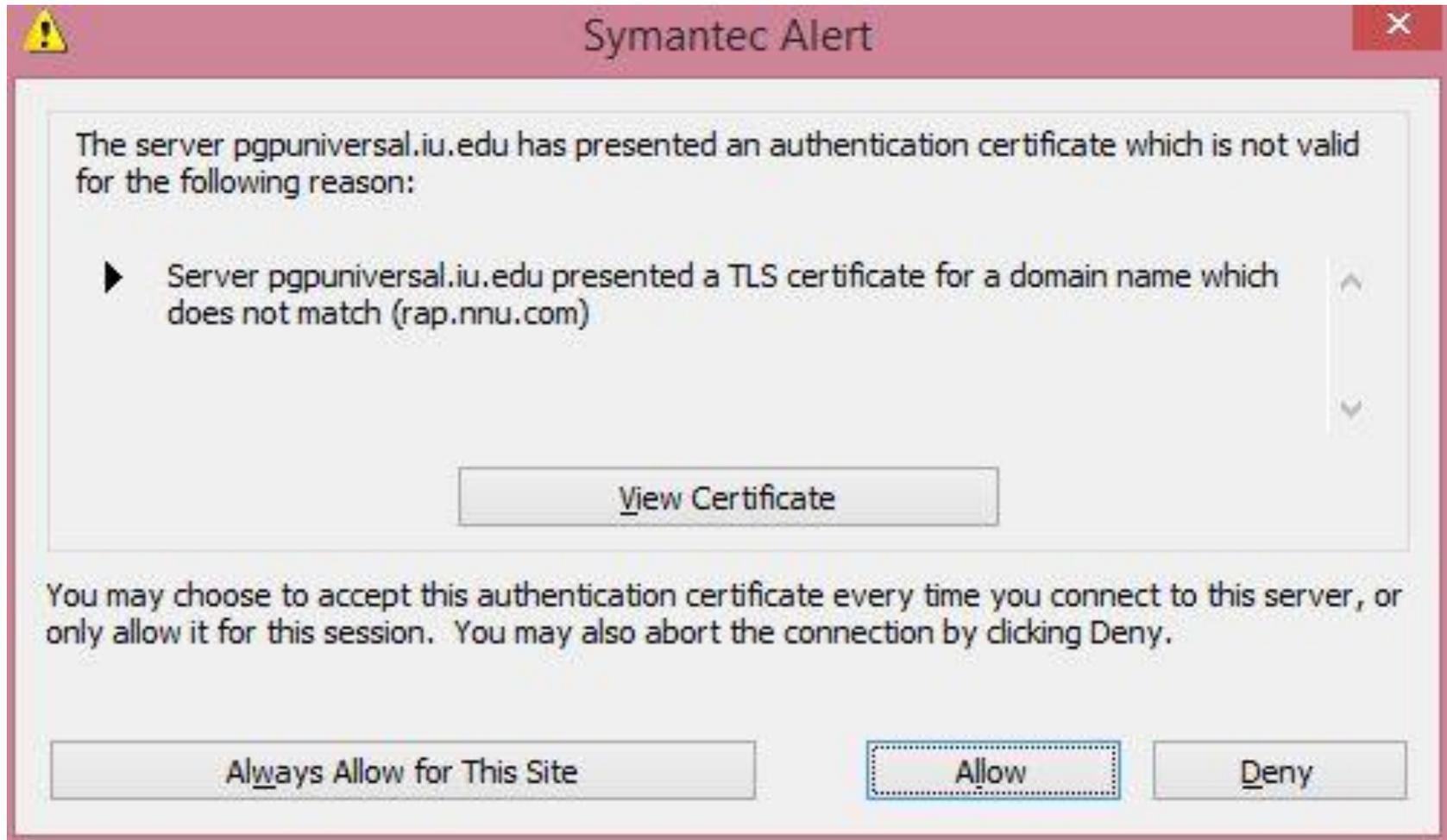
If you believe you have been a victim of predatory lending, you can find a list of [federal, state, and local resources](#) at the HUD Office of Housing Counseling.

**Now lets talk about some of the basics
of displaying text**

Common issues with text

- Uncommon or unfamiliar vocabulary
- Difficult scripts and typefaces
- Tiny fonts
- Text on noisy backgrounds
- Information buried in repetition
- Centered text
- Too much text (You can usually delete half of most text)

Uncommon or unfamiliar vocabulary



Difficult scripts and typefaces

Some
example text
from
usa.gov/mortgages

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Difficult scripts and typefaces

All capitals is
hard to read
because it
prevents
scanning

PREDATORY LOANS

MOST MORTGAGE PROFESSIONALS ARE TRUSTWORTHY AND PROVIDE A VALUABLE SERVICE, HELPING YOU TO BUY OR REFINANCE YOUR HOME. BUT DISHONEST OR "PREDATORY" LENDERS DO EXIST AND ENGAGE IN PRACTICES THAT INCREASE THE CHANCES OF BORROWERS LOSING THEIR HOMES TO FORECLOSURE. TO AVOID BECOMING A VICTIM OF PREDATORY LENDING, YOU NEED TO UNDERSTAND THE PROCESS TO BUY A HOME AND BE A SMART CONSUMER.

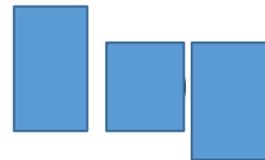
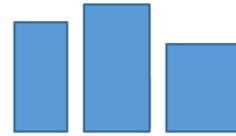
WHAT IS PREDATORY LENDING?

PREDATORY LENDERS, APPRAISERS, MORTGAGE BROKERS AND HOME IMPROVEMENT CONTRACTORS COULD USE ANY OF THESE TACTICS TO TAKE AWAY YOUR HOME OR INVESTMENTS:

- SELL PROPERTIES FOR MUCH MORE THAN THEY ARE WORTH USING FALSE APPRAISALS.
- ENCOURAGE BORROWERS TO LIE ABOUT THEIR INCOME, EXPENSES, OR CASH AVAILABLE FOR DOWN PAYMENTS IN ORDER TO GET A LOAN.

Consider this
shape

What word is
it?



Difficult scripts and typefaces

Some fonts
are easy to
read

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Difficult scripts and typefaces

Weird fonts
make reading
super
complex.

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Tiny fonts

Worse than
tiny fonts are
tiny fonts that
cannot be
enlarged

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Text on noisy backgrounds

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Information buried in repetition

The options
all start and
end with the
same words
making the
text hard to
read

Keyboard and Documentation

Configure your MacBook with the following language options along with the language of the included user documentation.

- Backlit Keyboard (English) / User's Guide
- Backlit Keyboard (Western Spanish) / User's Guide
- Backlit Keyboard (French) / User's Guide
- Backlit Keyboard (Japanese) / User's Guide

Information buried in repetition

Pull the
repeated text
out and only
say it once

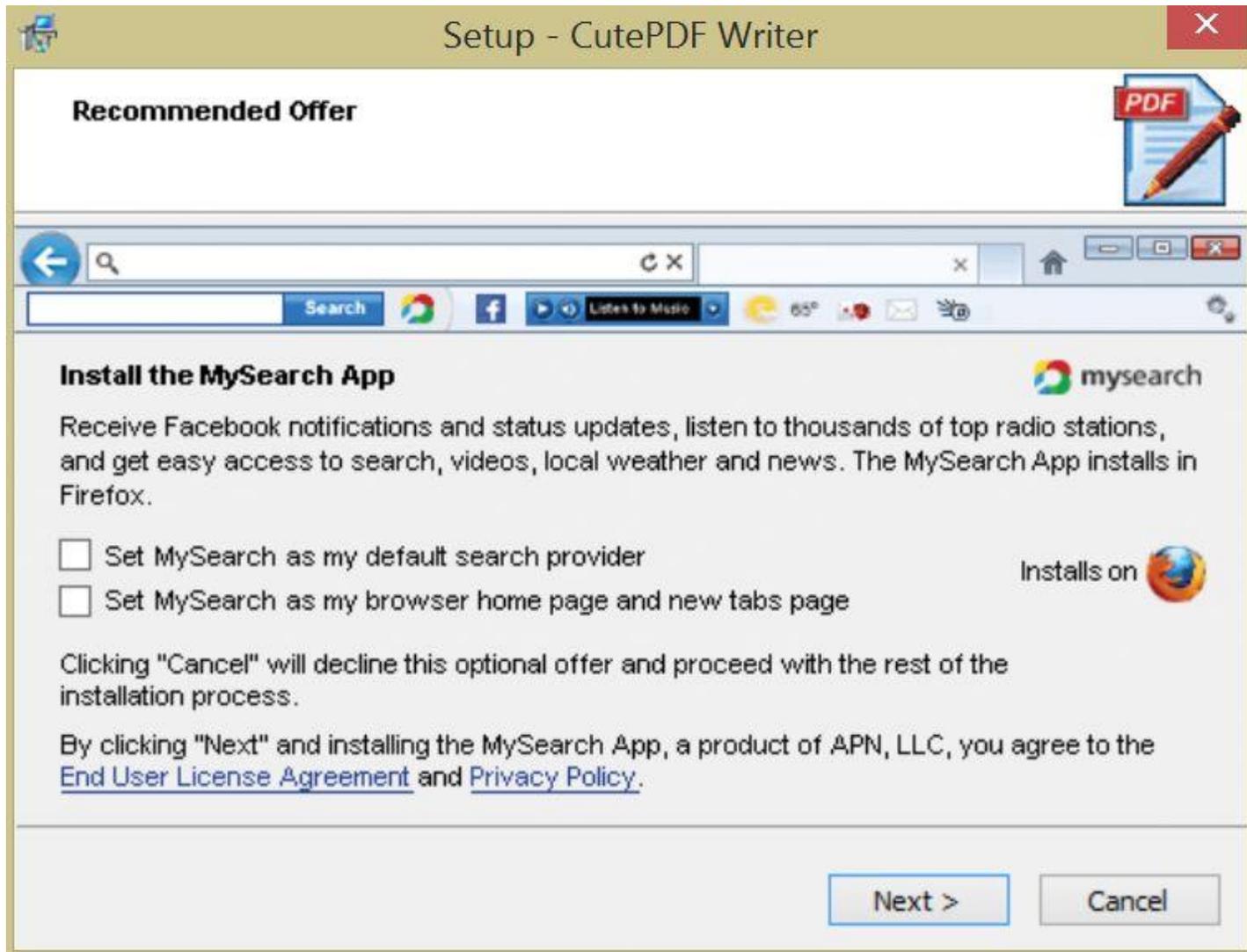
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Backlit Keyboard and User's Guide in:

- English
- Western Spanish
- French
- Japanese

Information buried in repetition



The screenshot shows a Windows-style window titled "Setup - CutePDF Writer". Inside the window, there is a section titled "Recommended Offer" with a PDF icon. Below this is a browser interface showing a search bar and various icons. The main content area is titled "Install the MySearch App" and includes the following text:

Receive Facebook notifications and status updates, listen to thousands of top radio stations, and get easy access to search, videos, local weather and news. The MySearch App installs in Firefox.

Set MySearch as my default search provider

Set MySearch as my browser home page and new tabs page

Clicking "Cancel" will decline this optional offer and proceed with the rest of the installation process.

By clicking "Next" and installing the MySearch App, a product of APN, LLC, you agree to the [End User License Agreement](#) and [Privacy Policy](#).

At the bottom right, there are two buttons: "Next >" and "Cancel".

Centered text

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Think-pair-share

- I will show three web pages for 20 seconds each
- Answer the following questions about the site:
 - What site is this?
 - What is the purpose of this site?
 - Any errors
 - Any good elements

Philip Wadler's home page

[Contact details](#)

[Wadler's Blog](#)

[Towards Independence](#)

[@PhilipWadler](#)

[Links](#)

[ABCD](#)

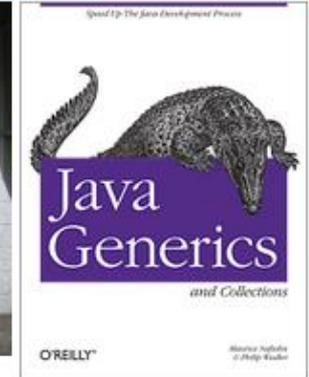
[Haskell](#)

[JFP](#)

[FP in the real world](#)

[SPLS](#)

[Computational Thinking and Outreach](#)



Projects

[Interested in applying for a PhD or Internship?](#)

[From Data Types to Session Types: A Basis for Concurrency and Distribution](#), an EPSRC Programme Grant, joint with Simon Gay, Glasgow, and Nobuko Yoshida, Imperial.

[TypeScript: The Next Generation](#) funded by a [Microsoft Research PhD Scholarship](#).

[Centre for Doctoral Training in Pervasive Parallelism](#), studentships available for cohort starting September 2016.

Currently:

- Professor of Theoretical Computer Science, [Laboratory for Foundations of Computer Science](#), [School of Informatics](#), [University of Edinburgh](#) (2003–).
- [ACM Special Interest Group on Programming Languages](#), Chair (2009-2012), Past Chair (2012-2015).



SpeechTrans Smartwatch
Version 4 Quad Core
\$199.00 / 365 days / year



SpeechTrans Bluetooth
Wristband
\$99.00 / 365 days



SpeechTrans Wireless
Translating Bluetooth
Headphones Earbuds
\$149.00 / 365 days / year



Download now from the
App Store and Google
play



Schedule a meeting



Everything You Want - Cole's Got It!

Search New ▾

Search Used ▾

Service & Parts ▾

Saved Vehicles



GMC



LINCOLN

CHRYSLER

DODGE

Jeep



i.e. White Nissan Altima

857 New Vehicles

1304 Total Vehicles

73 Certified Pre-Owned

Our Reviews



Google Aug 29, 2016



Great salesman. Honest

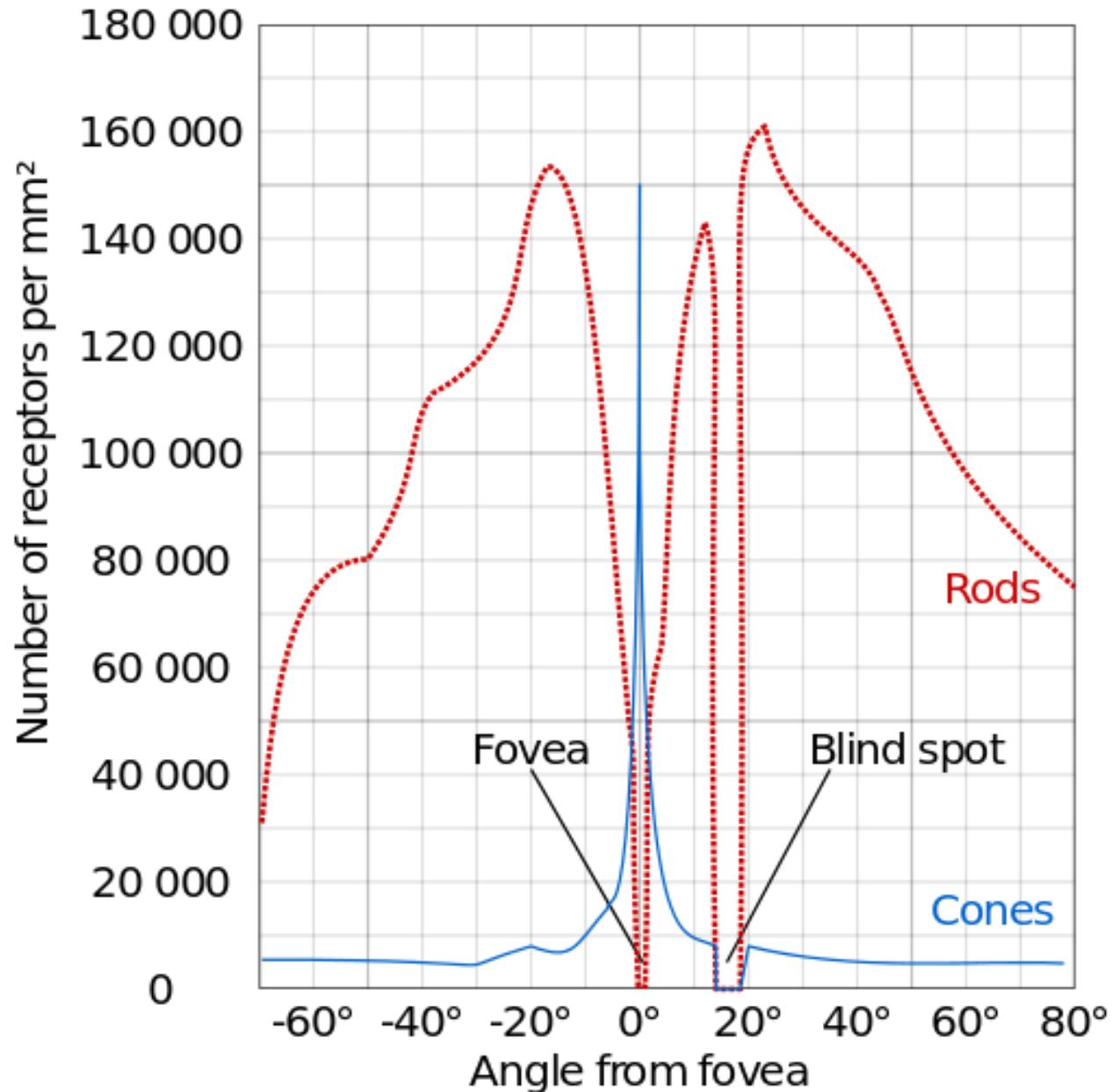
Read more at Google

<http://www.coleautomotive.com/>

The human eye is really good at seeing some things and bad at others

The eye is the most detailed at its center, where your focus is.

On the edges things are blurry, but you can easily see movement.



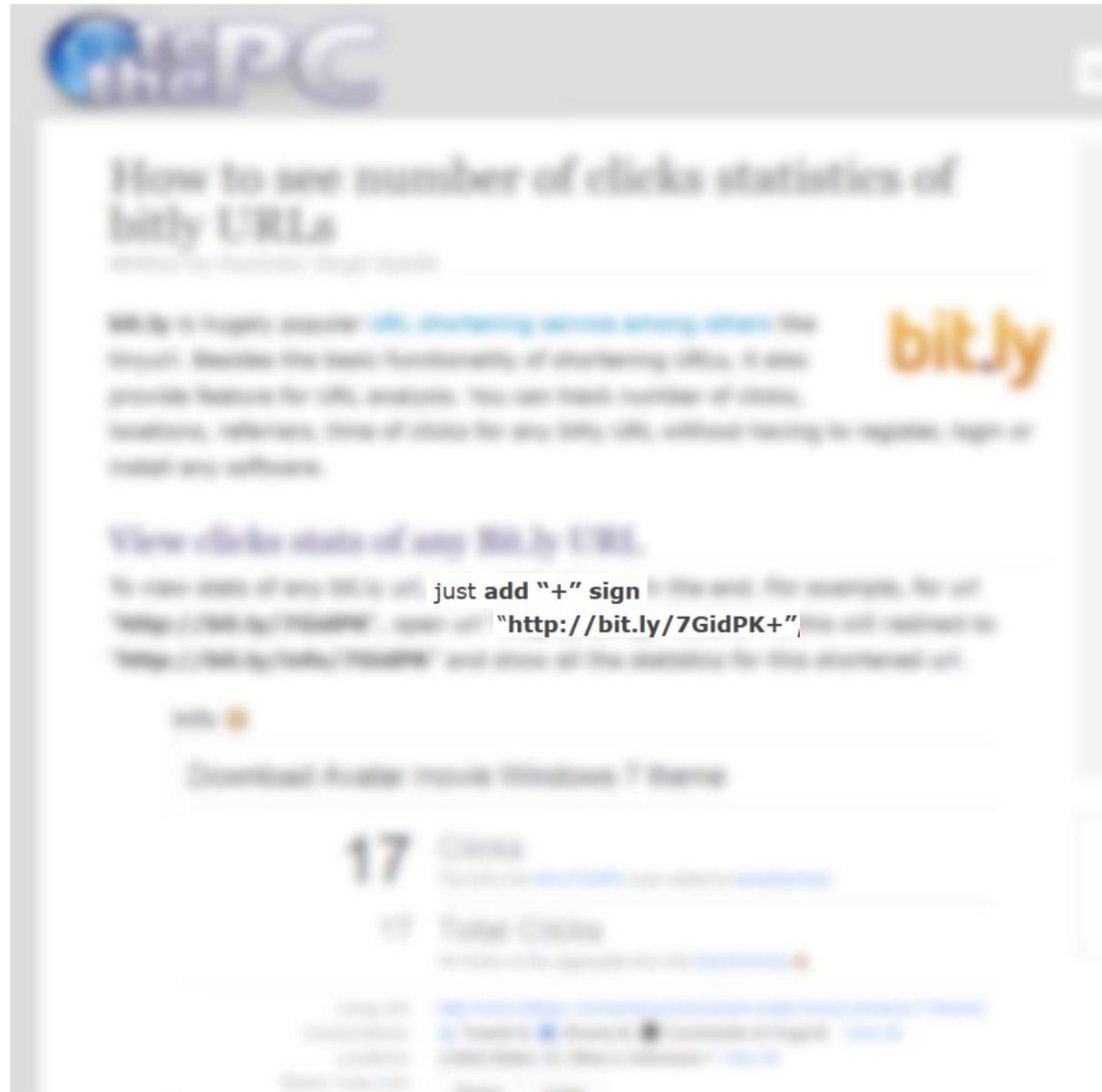
The eye is the most detailed at its center, where your focus is.

On the edges things are blurry, but you can easily see movement.



People only tend to see what they are looking at.

The human eye is built to see different things at different points



Accessibility

Pair-share

- I am about to show you a website
- Is it accessible to sight impaired people?
- Why or why not?

Welcome to the BBC

Sunday, 13 November

Sign in with your BBC ID, or Register to see Weather, Local News and more



Customise your Homepage



Remembrance Sunday: Services honour war dead

UK



Tsunami hits after powerful New Zealand quake

ASIA



England face Australia in crucial Four Nations match

RUGBY LEAGUE

News headlines >



Nato chief's warning for Trump

US ELECTION 2016



France 'to extend state of emergency'

EUROPE



Iraq 'retakes ancient Nimrud from IS'

MIDDLE EAST

Sport headlines >



England draw Test as India cling on

CRICKET



Will Rosberg win the battle in Brazil?

FORMULA 1



Murray wants to end season 'on a high note'

TENNIS

Basic stuff

- Add appropriate alt text to every image
- Use headings correctly
- Make your forms work with screen readers
- Use a “Skip to Main Content” link at the beginning of each page
- Make all content accessible by keyboard
- Create significant contrast between your text and background
- Use an accessible template

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TENNIS

Add appropriate alt text to images

Study Visit Research News About Alumni Staff Students

 THE UNIVERSITY
of EDINBURGH

Schools & departments

Search 

```
▼ <div class="col-sm-7 col-md-8">  
    
</div>
```



**Lets look at how the BBC website
handles accessibility**

Demo using Windows' default narrator



Fangs output for: BBC - Home

Reload Preferences

Help and tutorial ?

Screen reader output Headings list Links list

Screen reader output

Page has ninety-six headings and one hundred fifty-one links BBC dash Home dash Internet Explorer Link Homepage **Heading level two** Accessibility links List of two items bullet This page link Skip to content bullet Link Accessibility Help List end Link Sign in This page link Notifications List of nineteen items bullet Link News bullet Link Sport bullet Link Weather bullet Link iPlayer bullet Link TV bullet Link Radio bullet This page link More List end Link Search the BBC Edit Search the BBC **Heading level one** BBC Homepage **Heading level two** Welcome to the BBC Sunday, thirteen November Link Customise your Homepage Sign in with your BBC ID, or Register to see Weather, Local News and more. Link Sign in with your BBC ID, or Link Register to see Weather, Local News and more Link **Heading level three** Remembrance Sunday colon Services honour war dead From UK Link **Heading level three** Tsunami hits after powerful New Zealand quake From Asia Link **Heading level three** England face Australia in crucial Four Nations match . Live now. From Rugby League Link **Heading level two** News headlines Link **Heading level three** Nato chief's warning for Trump From US Election two thousand sixteen Link **Heading level three** France 'to extend state of emergency' From Europe Link **Heading level three** Iraq 'retakes ancient Nimrud from IS' From Middle East Link **Heading level two** Sport headlines Link **Heading level three** England draw Test as India cling on From Cricket Link **Heading level three** Will Rosberg win the battle in Brazil? From Formula one Link Watch video **Heading level three** Murray wants to end season 'on a high note' From Tennis Remove **Heading level two** three things we love today Link **Heading level three** How the internet reacted to an epic night of dance From BBC One Link **Heading level three** Hundreds join Walnut the whippet on his final 'walk' From England Link Watch video **Heading level three** Murray and Djokovic take on the mannequin challenge From Tennis Remove **Heading level two** Help us make the BBC Homepage better Want to opt in to our alternative page? Find out more Link here Dismiss Link Try it now **Heading level two** The BBC around the UK List of five items bullet Link Graphic slash pthree hundred six tteight .png Scotland bullet Link Graphic slash pthree hundred six trm.png ALBA bullet Link Graphic slash pthree hundred six tpeight .png Wales bullet Link Graphic slash pthree hundred six tpeight .png Cymru bullet Link Graphic slash pthree hundred six tqc.png NI List end Dismiss **Heading level two** Real dash life stories Link Listen to audio **Heading level three** Bataclan survivor colon It's changed me on every single level From BBC Radio five live Link Watch video **Heading level three** The teacher who has the world's loudest shout From Northern Ireland Link Listen to audio **Heading level three** Sole survivor 'miracle girl' tells of fatal air crash horror From BBC World Service Remove **Heading level two** Link Add more sections This

```

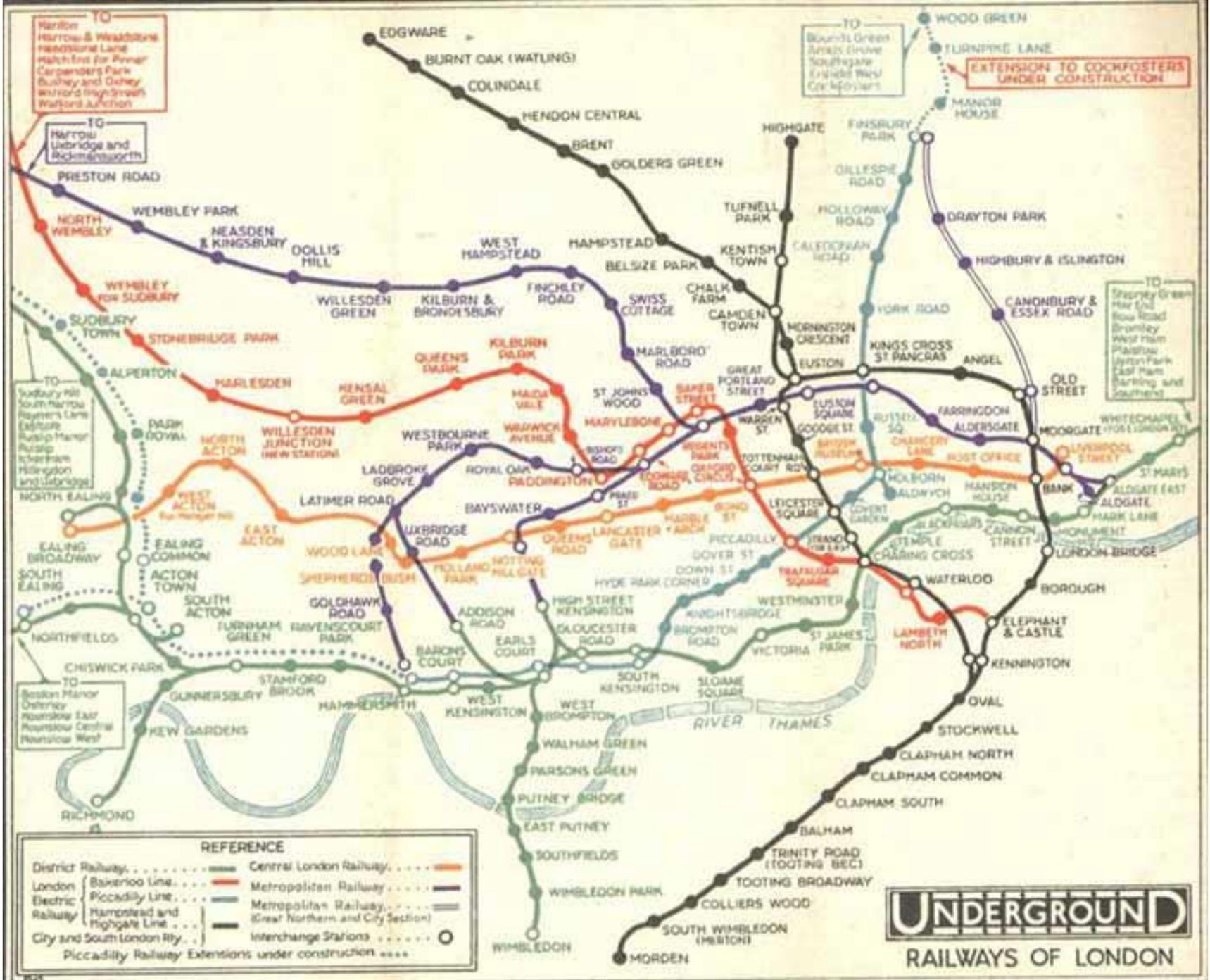
▼<div id="orb-header" class="orb-nav-pri orb-nav-pri-white orb-nav-dyn"> ev
  ▼<div class="orb-nav-pri-container b-r b-g-p">
    ▶<div class="orb-nav-section orb-nav-blocks"></div> ev
    ▼<section>
      ▼<div class="orb-skip-links"> ev
        <h2>Accessibility links</h2>
        ▼<ul>
          ▼<li>
            <a href="#hp-bbc-homepage-content">Skip to content</a>
          </li>
          ▼<li>
            <a id="orb-accessibility-help" href="/accessibility/">
              Accessibility Help</a>
          </li>
        </ul>
      </div>
    </section>
    ▶<div id="mybbc-wrapper" class="orb-nav-section orb-nav-id orb-nav-focus orb-nav-id-default"></div>
    ▶<nav class="orb-nav" role="navigation" aria-label="BBC"></nav>
    ▶<div class="orb-nav-section orb-nav-search"></div>
    ::after
  </div>
  ▶<div id="orb-panels"></div> ev
  ::after
</div>
</header>

```

Headers

Skip to
content links

Information does not always have to be presented in a literal sense



TO
Hendon
Harrow & Wealdstone
Heathrow Lane
Hatch End for Pinner
Carpenters Park
Bushey and Osney
Widford High Street
Watford Junction

TO
Hendon
Uxbridge and
Rickmansworth

TO
Bound Green
Jubilee Grove
Southgate
Cricket West
Cockfosters

EXTENSION TO COCKFOSTERS
UNDER CONSTRUCTION

TO
Shepperton Green
New End
How Road
Brimsley
West Ham
Plaistow
Upton Park
East Ham
Barking and
Southend

TO
Sudbury Hill
South Noyah
Rayners Lane
Egmore
Ruislip Manor
Ruislip
Acton Park
Hillingdon
and Uxbridge

TO
Baker's Manor
Osterley
Northow
East
Northow
Central
Northow West

REFERENCE

District Railway	Central London Railway
London Electric Railway	Metropolitan Railway
Hammersmith and Highgate Line	Metropolitan Railway (Great Northern and City Section)
City and South London Rly.	Interchange Stations
Piccadilly Railway Extensions under construction	

UNDERGROUND
RAILWAYS OF LONDON



REFERENCE

DISTRICT RAILWAY	METROPOLITAN RLY
BAKERLOO LINE	METROPOLITAN RLY
PICCADILLY LINE	SUBURBAN & CITY SERVICES
EDGWARE, HIGHGATE & HORDEN LINE	EAST LONDON RAILWAY
CENTRAL LONDON RLY	INTERCHANGE STATIONS
	UNDER CONSTRUCTION





- Bakerloo
- Central
- Northern
- Piccadilly
- Victoria
- Waterloo & City
- DLR
- London Overground
- Emirates Air Line
- Metropolitan
- Jubilee
- Interchange stations
- Step-free access from street to train
- Step-free access from street to platform
- ≡ National Rail
- ⚓ Riverboat services
- ⚓ Tramlink
- ✈ Airport
- ✈ Emirates Air Line

Questions?