Our Perception is Biased

- **The past**: our experience
- **The present**: the current context
- **The future**: our goals
Perception biased by experience

- Perceptual priming
- priming the mind can affect perception

Image showing the effect of mental priming of the visual system – (from J Johnson “Designing with the mind in mind”, p 2)
Perception biased by experience

- Familiar perceptual patterns or frames

-repeated exposure to each type of situation builds a pattern in our minds of what we expect to see.

The “Next” button is perceived to be in consistent location, even when it isn’t – (from J Johnson “Designing with the mind in mind”, p 4)
Perception biased by experience

- **Habituation**
  - repeated exposure to the same (or highly similar) perceptions dulls our perceptual system’s sensitivity to them

Francis Barlow – illustration of the “The Boy who Cried Wolf” fable
Perception biased by experience

- **Attentional blink**

  - Caused by the brain’s perceptual and attention mechanisms being fully occupied with processing the first recognition
Perception biased by current context

- What we see is influenced by the context

THE CAT

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Perception biased by goals

• **Guide** our perceptual apparatus so we sample what we need from the world around us

• **Filter** our perceptions: things unrelated to our goals tend to be filtered out preconsciously, never registering in our conscious minds
Perception biased by goals

Toolbox: Are there scissors here? – (from J Johnson “Designing with the mind in mind”, p 10)
Perception biased by goals

University of Canterbury Web site: navigating sites requires perceptual filtering – (from J Johnson  “Designing with the mind in mind”, p 11)
Perception biased by goals

Mechanisms:

• influencing where to look

• sensitising our perceptual system to certain features
Biased Perception – design implications

- Avoid ambiguity
- Be consistent
- Understand the goals
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.
Stationary items in muted colours presented in the periphery of people’s visual field often will not be noticed.

Motion in the periphery is usually noticed.
What the visual periphery is good for?

- Function 1: Guide fovea
- Function 2: Detects motion
- Function 3: Lets us see better in the dark
Example from computer user interfaces

This error message for a faulty sign-in appears in peripheral vision, where it will probably be missed. – (from J Johnson “Designing with the mind in mind”, p 55)
Think-pair-share

- Look at the image below.

  *Can you think of any reasons people might not initially see the error message?*

- Pair with your neighbor

- Share your thinking with your partner

This error message for a faulty login is missed by some users even though it is not far from the “Login” button. – (from J. Johnson “Designing with the mind in mind”, p 56)
Simulation of a user’s visual field while the fovea is fixed on the “Login” button. – (from J Johnson “Designing with the mind in mind”, p 56)
Common methods of making messages visible

- Put it where users are looking
- Mark the error
- Use an error symbol
- Reserve red for error
Example

This error message for a faulty sign-in is displayed more prominently, near where users will be looking. – (from J Johnson “Designing with the mind in mind”, p 57)
Heavy artillery

- Method 1: Pop-up message in error dialog box
- Method 2: Use sound (e.g. beep)
- Method 3: Wiggle or blink briefly (1/4 – 1/2)(s)
Heavy artillery

• *However, use heavy-artillery sparingly!*

  - Reason → *habituation* – our brain pay less and less attention to any stimulus that occurs frequently

  - Overuse of strong attention-getting methods can cause important messages to be blocked by habituation

  - Remember the old fable about the boy who cried ‘wolf’ too often …
Visual search is linear

- unless targets “pop” in the periphery

Finding the Z requires scanning carefully through the characters – (from J Johnson “Designing with the mind in mind”, p 62)

Finding the bold letter does **not** require scanning through everything. – (from J Johnson “Designing with the mind in mind”, p 62)
Visual search is linear

- unless targets “pop” in the periphery

Counting L’s is hard; character shape doesn’t “pop” among characters- (from J Johnson “Designing with the mind in mind”, p 63)

Counting blue characters is easy because color “pops” – (from J Johnson “Designing with the mind in mind”, p 63)
Using peripheral “pop” in design

- **Visual hierarchy**, e.g. titles, headings, boldness, bullets and indenting

Find the advice about prominence in each of these displays. Prose text format (A) makes people read everything. Visual hierarchy (B) lets people ignore information irrelevant to their goals (from J Johnson “Designing with the mind in mind”, p 34)
Using peripheral “pop” in design

- *Use colour to indicate status* – reserve red for problems (e.g. jams on a map, potential collision)

Google Maps uses color to show traffic conditions. Red indicates traffic jams - (from J Johnson “Designing with the mind in mind”, p 64)

Air traffic control systems often use red to make potential collisions stand out - (from J Johnson “Designing with the mind in mind”, p 65)
Using peripheral “pop” in design

- **When there are many possible targets** – design icons that can be distinguished in the periphery.

(A) Microsoft Word Tools menu, and (B) MacOS application pallet - (from J Johnson “Designing with the mind in mind”, p 66)
Humans are surprisingly bad at reading text and very good at pattern matching.

So when skimming we don’t read, we pattern match (words can be patterns).

Then read once we find something that looks worth reading.
You don’t need to be able to read something to know what it means.
What is the document to the right?

Can you tell what the content is even if you cannot read it?
Annual Report from the Inuit People in Canada

Board of Directors

Natan Obed
President
Inuit Tapiriit Kanatami

Natan Obed is the President of Inuit Tapiriit Kanatami. He is originally from Nain, the northernmost community in Labrador’s Nunatsiavut region, and now lives in Ottawa. For 10 years he lived in Iqaluit, Nunavut, and worked as the Director of Social and Cultural Development for Nunavut Tunngavik Inc. He has devoted his career to working with Inuit representational organizations to improve the wellbeing of Inuit in Canada.

Duane Smith
Chair and CEO
Inuvialuit Regional Corporation

Duane Smith is the Chair and CEO of the Inuvialuit Regional Corporation, whose mandate is to receive Inuvialuit lands and financial compensation resulting from the 1984 Inuvialuit land claims settlement. From 2002 to 2016, he was President of Inuit Circumpolar Council Canada, and served as Chair of the Inuvik Community Corporation for six terms starting in 2004.

Cathy Towtongie
President
Nunavut Tunngavik Incorporated

Cathy Towtongie first entered politics in 1973 as Secretary Treasurer of Inuit Tapirisat of Canada. In 2001, she was elected President of Nunavut Tunngavik Incorporated, the organization responsible for ensuring that promises made under the Nunavut Land Claims Agreement are carried out.
Proximity and the overlapping of the photo naturally make you group the two bits of text with the photo.

The two bits of text are also different colors causing a natural grouping even without the line.
We are also good at scanning (reading rapidly in order to find specific facts)
I wanted to figure out where a bit.ly link went because it was in a suspicious email (I’m paranoid)

I remembered that bit.ly has statistics pages for all URLs that list the destination URL

So I used DuckDuckGo to search for: bit.ly url number of click statistics

And found this page:
How to see number of clicks statistics of bitly URLs

Written by Davinder Singh Kainth

bit.ly is hugely popular URL shortening service among others like tinyurl. Besides the basic functionality of shortening URLs, it also provide feature for URL analysis. You can track number of clicks, locations, referrers, time of clicks for any bitly URL without having to register, login or install any software.

View clicks stats of any Bit.ly URL

Except I’m trying to solve a problem, not read a website. So what I saw looked more like this:
How to see bitly URLs

Bitly is hugely popular shortening service among others. The key plus besides the basic functionality of shortening URLs is also provide features for URL analysis. You can track number of clicks, locations, referrals, time of day for any bitly URL, without having to register. Login or install any software.

View clicks stats of any Bit.ly URL


Download Adobe movie Windows 7 theme

17 Clicks

17 Total Clicks

number of clicks statistics

bit.ly
How to see number of clicks statistics of bitly URLs

Bitly is a hugely popular URL shortening service among others. It's great! Besides the basic functionality of shortening URLs, it also provides features for link analysis. You can track number of clicks, locations, referrals, time of clicks for any bitly URL, without having to register, login or install any software.

View clicks stats of any Bit.ly URL

How to see number of clicks statistics of bitly URLa

bit.ly

View clicks state of any Bit.ly URL

To view state of any Bit.ly URL, just add “+” sign at the end. For example, for an
http://bit.ly/7GidPK, you will add “+” sign to
http://bit.ly/7GidPK/+ and view all the statistics for this shortened URL.
So I added a + to my URL and landed here which is what I was looking for.
For me this was a very usable webpage

- I could quickly see it was the correct place
- Section title used language that matched my search
- Data I needed was bolded and had an example which was also bold
We don’t read, we scan

• We typically want something

• We know that we don’t actually need to read everything

• We are good at scanning
Create effective visual hierarchies

• The more important something is the more prominent it is

• Things that are related logically are related visually

• Things that are nested visually show what’s part of what
Important things are prominent

Very important

A little less important

Nowhere near as important
Logically related are also visually related

<table>
<thead>
<tr>
<th>Books</th>
<th>Music</th>
<th>Movies</th>
<th>Games</th>
</tr>
</thead>
</table>

45
Visual nesting shows hierarchy

Your Cart

Shopping item 1
This is a super great product with lots of potential for making you happy
$3.20

Shopping item 2
This is a super great product with lots of potential for making you happy
$9.20
Now let's 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

Symantec Alert

The server pgpuniversal.iu.edu has presented an authentication certificate which is not valid for the following reason:

- Server pgpuniversal.iu.edu presented a TLS certificate for a domain name which does not match (rap.nnu.com)

You may choose to accept this authentication certificate every time you connect to this server, or only allow it for this session. You may also abort the connection by clicking Deny.

Always Allow for This Site  Allow  Deny
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.
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.
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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.
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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
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<table>
<thead>
<tr>
<th>Backlit Keyboard and User’s Guide in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ English</td>
</tr>
<tr>
<td>☐ Western Spanish</td>
</tr>
<tr>
<td>☐ French</td>
</tr>
<tr>
<td>☐ Japanese</td>
</tr>
</tbody>
</table>
Information buried in repetition

Install the MySearch App

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.
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Questions?