Human-Computer Interaction
INFR11017

Week 4: Task and Simple Evaluation

10th October 2023

Aurora Constantin
Content

About the Course:
• Weekly schedule
• Assessment

HCI “in the world”:
• Workshop - Heather Hepburn, Head of Accessibility at Skyscanner

Questions
About the course
Course overview and status

- **Lectures**
  - This week (Week 4): Task and simple evaluation

- **Coursework 1**
  - Last week
    - Finish: Mock up the design
    - Write the report
  - **Deadlines**
    - CW1 – group work – deadline 12/10/2023, 16:00
    - Quiz 1 - individual work – deadline 13/10/2023, 16:00
HCI “in the world”

Heather Hepburn
• *Head of Accessibility at Skyscanner*
Intro to digital accessibility

Heather Hepburn, Head of Accessibility
About us

Company

• Online global travel brand
• Offer flights, hotels & car hire
• 1,300+ staff
• 9 offices worldwide
• 35 languages
• 100 million monthly active users
About me

Heather Hepburn

• UX Writer for 7 years
• Now Head of Accessibility at Skyscanner
• Co-founder of Champions of Accessibility Network (CAN)
• On a mission!
Intro to digital accessibility

Content

• Accessibility – what, who, why
• Our accessibility programme
• Digital Empathy Lab (interactive!)
• How to make things accessible
• Q&A
Accessibility – what, who, why
Q. Who is disabled here?

A: Neither

Both can enter the building as there are no barriers.
Accessibility – what

Medical model
Disability is caused by a health condition, disease or trauma

×

Social model
Disability is caused by society and the environment – not the condition

✓
Accessibility

Good to know

- Often shortened to “a11y”
- Global set of standards:
  - Web Content Accessibility Guidelines (WCAG)
  - Just launched Version 2.2
  - We’re aiming for Level AA

Definition

Accessible products

“Websites, apps, tools, and technologies that are designed and developed so that people with disabilities can use them.”
1 in 5 people have a disability
80% of disabilities are hidden
Accessibility – who

- Physical
- Vision
- Hearing
- Cognitive
Accessibility – who

Assistive technology

- Breath

Xbox Adaptive Controller

- Magnification
- Braille keyboard
- Voice recognition
- Switch device
Disabilities can affect us all

Source: Microsoft’s Inclusive Design Kit
“The results of inclusive design for accessibility always leads to a better product for everyone.”
## Business Case

### Commercial
- Increase audience size
- Increase revenue
- Breed loyalty
- Avoid reputational damage
- Great for SEO

### Legal
- **UK Equality Act 2010**: make "reasonable adjustments" to enable disabled persons to access our services
- **EU Accessibility Act**: by June 2025 our services should be designed to "maximise their foreseeable use by persons with disabilities"

### Moral
- It’s the right thing to do
- Provide equitable experience for everyone
- Exclude nobody
- Advocate for diversity, equity & inclusion

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**Accessibility – why**
Our accessibility programme
Our accessibility programme

Our vision

To make Skyscanner a flagship of disability inclusion, our products accessible to all, and travel easier for people with disabilities.

Our strategy

- Awareness
- Advocacy
- Adoption

our people

our travellers

our industry
Accessibility Champions Network
Our accessibility programme

Accessibility Champions Network

Skyscanner Accessibility
Digital Empathy Lab
What’s an Empathy Lab?
These experiences are **simulations only**. Everyone experiences disability differently, and some simulations are more accurate than others.
Task!

Download the **Funkify Chrome plugin** and try out the disabled personas.

**Steps:**
1. Go to Funkify.org
2. Hit the “Try it” button for “Funkify Free”
3. Open a website in Chrome, then open the extension by clicking on the glasses icon
4. Try out the different disability personas by hitting ”start”
How to make things accessible
# How to make things accessible

## 5 key elements

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Design</td>
<td>Use good colour contrast, large font size, clean layout, controlled motion, consistent navigation and accessible interactions</td>
</tr>
<tr>
<td><strong>2</strong> Content</td>
<td>Write copy in plain language. Use clear and unique links and Calls to Action (CTAs), alternative (ALT) text for images and hidden labels</td>
</tr>
<tr>
<td><strong>3</strong> Keyboard only</td>
<td>When only using a keyboard, have a clear focus indicator, move in the correct order and make all interactive elements reachable</td>
</tr>
<tr>
<td><strong>4</strong> Screen readers</td>
<td>Make it work with a screen reader by creating a meaningful focus order and including heading tags, image descriptions (ALT text) and labels</td>
</tr>
<tr>
<td><strong>5</strong> Magnification</td>
<td>Allow zoom up to 400% (or 200% text increase) without losing content or functionality</td>
</tr>
</tbody>
</table>
Design
**Design**

**Colour**

**AIM #1: Text is clearly visible against the background**

Can you read this heading?

It's not great, as there's not enough contrast between the colour of the heading text and the background.

Can you read this heading?

That's much better. The contrast between the colour of the heading and the background is much higher.
AIM #2: Design works for colour blind people

Normal vision

Protanopia – red/green colour blindness
Design

Colour

Colour contrast minimums

• Large text = 3:1
  Larger or equal to 24px or 19px bold

• Small text = 4.5:1
  Smaller than 24px or 19px bold

• Graphics = 3:1

accessibleweb.com/color-contrast-checker
Design

Colour

Old palette

New palette

Our old brand guidelines: on what colours combinations were allowed
Design

Layout

AIM: Make content inviting to read
Design

Layout
AIM: Make content inviting to read

• Minimum font size = 16px or 14px bold
• Max line length 80 characters
• Use short sentences and paragraphs
• Use headings and subheadings
• Use bullet points
• Create lots of white space
• Align text left
• Don’t underline unless it’s a link
• Don’t overuse ALL CAPS or italics
Case study – Search controls

Old home page

New home page
AIM: Make content easy to read

• Check the readability of your copy, aiming for a reading age of 9 years (USA Grade 4)
• Use common words and phrases
• Write in short sentences
• Use an “active” voice (not passive)
Hemingway App makes your writing bold and clear.

University of Edinburgh Admissions Policy

4. Definitions

4.1. Asylum seeker: Someone who is asking for safety, but they are still waiting to know if they can stay in a new place.

4.2. Care-experienced: Anyone who has been taken care of or helped in their life, like living with foster families or in special homes. Even kids who were adopted after being taken care of are included.

4.3. Widening participation: Making sure that more people, especially those who didn’t get many chances before, can go to college or university.

4.4. Diversity: This means understanding that people can be different in many ways, like how old they are, if they have a disability, their gender, race, religion, who they love, and more. We should accept these differences and believe that everyone should have the chance to do their best without being treated badly because they’re different.

University of Edinburgh Admissions Policy

4. Definitions

4.1. Asylum seeker: Someone whose request for sanctuary has yet to be processed (UNHCR).

4.2. Care-experienced: Anyone who has been in care or from a looked-after background at any stage of their life, no matter how short, including adopted children who were previously looked after. Care may have been provided in or through one of many different settings, such as residential care, foster care, kinship care, or looked after at home with a supervision requirement (Universities Scotland).

4.3. Widening participation: The process of creating opportunities for individuals who have been traditionally under-represented in higher education, including those from lower socio-economic backgrounds or other life disadvantage, such as care experience (COWA).

4.4. Diversity: The recognition and valuing of differences within society, in terms of factors such as age, disability, gender, gender identity, race, religion or belief, sexual orientation, marriage and civil partnership, and pregnancy and maternity. It encompasses the acceptance of these differences and the understanding that they contribute to the richness of society, and the belief that everyone should have the opportunity to reach their full potential, free from discrimination or prejudice (Scottish Government).
Keyboard only
Keyboard only navigation

AIM: Make it easy to navigate just using a keyboard (no mouse or trackpad)

Before
Keyboard only navigation

AIM: Make it easy to navigate just using a keyboard (no mouse or trackpad)

After

- Use skip links
- Have a clear focus indicator
- Tab through in correct order
- Reach all interactive elements
- Avoid keyboard traps!
Screen readers
Screen readers

- Add labels to all buttons
- Write alt text for images
- Use heading tags
- Include "hidden text" if needed
Magnification
Magnification

Zooming in
AIM: Content is still readable and usable at 400% zoom

- Check all content is still there
- Make sure you can still interact with everything
- Rethink sticky elements that get in the way
How to make things accessible

Our guidelines

Accessibility

We believe that travel should be for everyone. We want our products to be usable by all, which means making them accessible for all.

What we can do

Understand the people who use our product

1 in 5 people lives with some form of permanent disability, with many disabilities affecting how people use technology. To prevent designing barriers in our products, it’s essential to know who uses them, including people with a wide range of disabilities.

Remember we can all experience disabilities every day

As well as permanent disabilities that we’re born with or acquire with age, there are temporary impairments – like short-term hearing loss due to an ear infection – and situational impairments – like losing your glasses. These can affect everyone at various times.
How to make things accessible

Resources

- Accessibility Insights auditing tool (web):
  accessibilityinsights.io

- Adi Latif screen reader video:
  youtube.com/watch?v=QUZ091A73bk

- BBC Mobile Guidelines:
  bbc.co.uk/accessibility/forproducts/guides/mobile

- Brandwood tool (testing text on images):
  brandwood.com/a11y

- Colour Contrast Checker:
  monsido.com/tools/contrast-checker

- Funkify disability simulator:
  funkify.org

- Home Office accessibility posters:
  ukhomeoffice.github.io/accessibility-posters/posters/accessibility-posters.pdf

- Microsoft’s inclusive design kit:
  microsoft.com/design/inclusive

- Readability test:
  hemingwayapp.com

- Sim Daltonism colour blindness simulator:
  michelf.ca/projects/sim-daltonism

- Stark accessibility plugin:
  getstark.co

- The A11Y Project resources:
  a11yproject.com/resources

- W3C tips:
  w3.org/WAI/gettingstarted/tips/index

- WAI-ARIA Authoring Practices:
  w3.org/TR/wai-aria-practices

- WCAG 2.1:
  w3.org/TR/WCAG21
Q&A