Joy of Sound

IA and Visualisation Redesign for Web Accessibility

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Abstract

Joy of Sound (JOS) is a charity aiming to promote social inclusion by music and creative arts practices for people with multiple disabilities.

This project cooperates with JOS to help them re-frame the information architecture and re-design the visual identity of their website to make it easier for users (especially people without learning difficulties) to access the information they need.

Background

01 Why are the information architecture & visuals?

 # Huge Amount of Functions

41 existing functions: difficult to find the needed information

 # Chaos Visual Elements

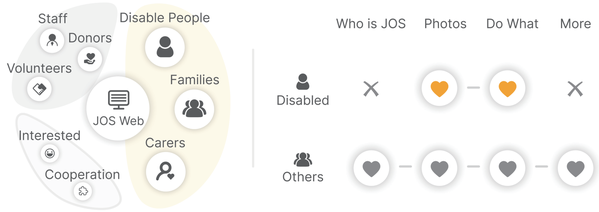
White or massive texts on images with highly saturated

 # Messy Information Hierarchy

80% error rate for the first click test on original pages

02 Why are the people without learning disabilities?

 # Less Functional Needs of LD People



LD people have more one-sided functional needs and only tend to know about the event content, photos or videos. Therefore, choose people without LD as the target group to ensure the integrity of the information architecture.

Study Methodology

Project Duration: 02/2022 - 09/2022

Project Tested: more than 25 participants from JOS

01| To Define Research Direction

Desk Research - learn about what is LD
First Click Test - for original web pages
User Interview - gain user needs

02| To Iterate & Confirm IA

Open Card Sorting - gain Initial IA idea
Tree Testing - gain idea for IA iteration
First Click Test - confirm and iterate IA

03| To Prototype Design

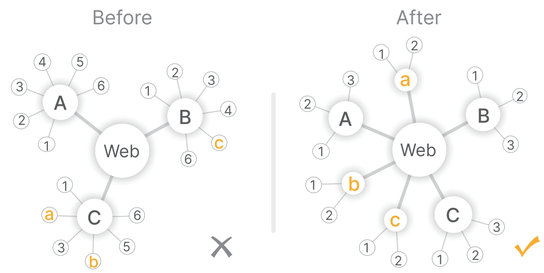
Desk Research - define visual specification
User Interview - get preference for A/B
Low & Medium & High Prototype Design

04| Usability Test

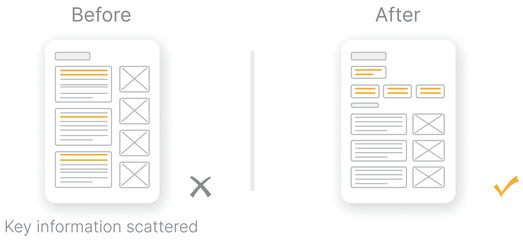
First Click Test - confirm IA usability
Eye Tracking Test - find reason for abnormal data
Desk Research - find reason for abnormal data

Prototype Design

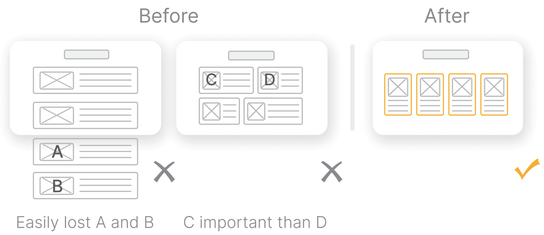
01 | Reduced Information Vertical Depth



02 | Layout Information Based on Priority



03 | Display Same-level Information in One Visual Range



Testing & Evaluation

01| Potential Problem Discovery

During the usability testing, three sets of data were significantly abnormal with 0%, 14% and 28% correct rate (77% on average).

By reviewing test records, I found that these data came from both LD parents and volunteers. Moreover, all participants indicated they needed help when reading the test questions.

02| Problem Research

Desk Research

> “ For different types of learning disabilities, most estimates of heritability are in the range of **40-60%**. ”

> “ Approximately **1 / 10** people in the UK suffer from some degree of dyslexia. ”

Literature searches show that there is a heritable potential for LD, and dyslexia is highly prevalent, with the possibility of mild dyslexia going undetected or undiagnosed.

03| Problem Exploration

 # Eye Tracking Test & First Click Test

Heat Maps reveal the high correct group's eye gaze focused on texts, while the low correct group was on pictures.

Gaze Plots show more chaotic eye movement trajectories and shorter single-point focus durations in the low correct group, consistent with the muscle movement features of the LD eyes: the low correctness possibly caused by mild LD.

Research Results

 # Redesigned IA increases users function finding correctness.

 # More accessibility design may need to add for LD families and volunteers on the JOS website, but as the test number is too limited, the conclusion needs further validation.

“Design Reflection: When we discuss accessible design, we tend to focus on people with obvious disabilities but ignore those people with mild symptoms may also need our help. ”