



Accessible Design Systems

Sarah Massengale

Marcelo Paiva

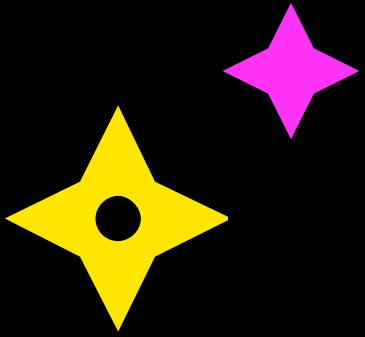
Our hosts



Sarah Massengale
She/Her/Hers
Accessibility Specialist



Marcelo Paiva
He/Him/His
UX + Accessibility



Who we are influences what we do.

Positionality

is understanding how your background, identity, and experiences shape your views and actions.

It helps you see how these factors influence your work and interactions with others.



Sarah's positionality on Accessibility:



I'm a blind, queer, neurodivergent white woman, and my identities deeply influence my approach to inclusive design.

My advocacy extends beyond work, as I live the inequities I fight against every day.

I challenge 'best practices' often created by non-disabled, straight, white people, to ensure digital experiences are accessible and equitable for all.

Marcelo's positionality on Accessibility:



My positionality as diabetic, hard of hearing, and as a Brazilian immigrant, in the U.S. since 1992, shapes my understanding of exclusion and inclusion.

My experiences across cultures, language barriers, and diverse roles shape my approach to accessible, inclusive design.

I'm aware of how my identity influences my perspective and privilege in the industry. This drives me to create digital spaces that are welcoming and accessible for all.



Day-1 Recap

20 minutes



Today, we learned:

Empathize

True empathy
Unconscious Bias
Case for Accessibility
Compliance vs. Equity

Learn

Laws and Guidelines
WCAG as Design Challenges
WCAG Quotes
WCAG 2.2

Make

Design process
Gherkin Stories, Personas,
Journeys and Priority Guides
Designing with Words
Accessible Prototyping



Day-2 Agenda

Hands-on activities for
designing components and
patterns.





Day 2

Let's make something!



User Personas with Disabilities

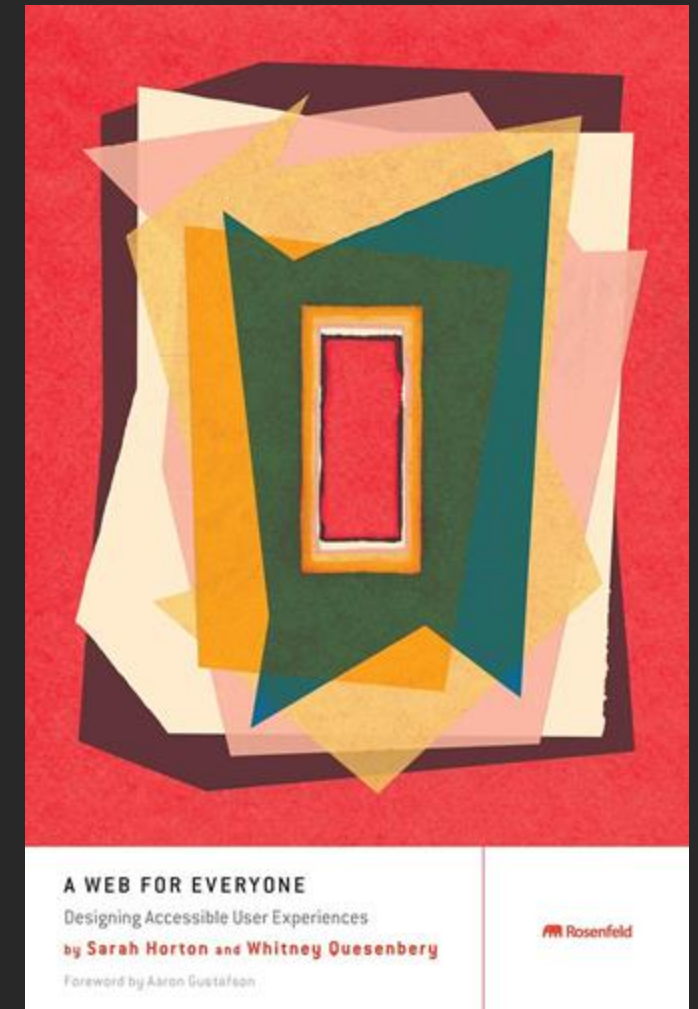


Chapter 2: People First: Designing for Differences

"You have to know the people you are designing for. And that includes people with disabilities."

Sarah Horton

Co-Author, A Web for Everyone:
Designing Accessible Experiences



Representing disabilities in User Personas



Trevor

High school student
with autism



Emily

Cerebral palsy, living
independently



Jacob

Blind, a bit of a geek



Lea

Living with fatigue
and pain



Steven

Deaf, ASL speaker



Vishnu

Global citizen with low
vision



Maria

Bilingual mobile user



Carol

Grandmother with macular
degeneration

Illustrations by Tom Biby

Emily, 24 years old

Cerebral palsy



“I want to live independently”

- Works part-time at a local community center
- Difficult to use hands and has some difficulty speaking clearly; uses a motorized wheelchair
- Uses the computer well, with the right input device; good at finding efficient search terms
- Wants to do everything for herself; can be impatient.

Assistive Technology

- Augmented & Alternative Communication (AAC) with speech generator.
- Scooter with joystick control, iPad attached

Lea, 35 years old

Living with fatigue and pain



“No one understands my disability.”

Writes for a trade publication and works from home

- Fatigue from fibromyalgia, trackball, and special keyboard
- Average user
- Wishes people would understand how hard it can be for her to make it through the day

Assistive Technology

- Split keyboard for less strain on her wrists
- Keyboard controls to minimize arm movement
- Dragon Naturally Speaking (speech recognition)

Jacob, 32 years old

Blind, in love with technology



“The right technology lets me do anything.”

When technology is in place, he can work just as fast and just as effectively as anyone in his office.

- Blind since birth with some light perception
- Skilled technology user
- Digital native, early adopter, persists until he gets it

Assistive Technology

- Screen reader (JAWS on his laptop, VoiceOver on his phone)
- Audio recorder (to take notes)
- Braille display

User persona with disabilities - Jacob

Jacob

Blind in love with technology

Github page

<https://bit.ly/a11y-jacob>



Priority Guides

Designing with words



A List Apart - May 03, 2018

Priority Guides:

A Content-First Alternative to Wireframes

by Heleen van Nues, Lennart Overkamp

<https://alistapart.com/article/priority-guides-a-content-first-alternative-to-wireframes/>



What is content-first?

The practice of designing with words before jumping into visual layout design.



The Sequence of Priority and Intent

Priority Guide with Intent: Alignment through Content Early

By Simone Ehrlich

**User Flow
Diagram**

Understand and
organize initial user
needs

**Priority
Guides**

Propose the hierarchy of
information and the
intent of each element.

**Intent
Framing**

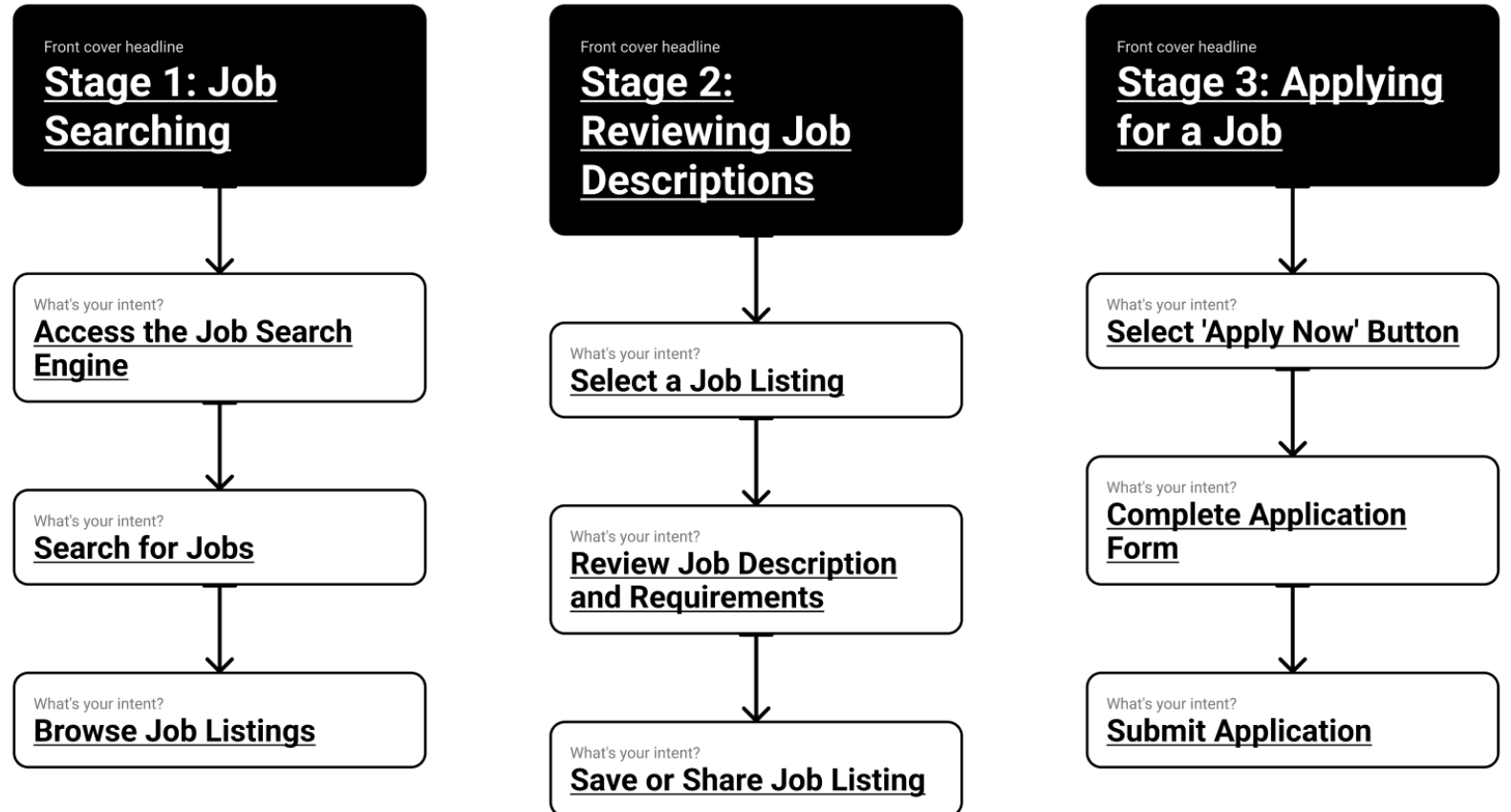
Propose the layout
based on the priority
and intent of each
element

**Wire
Framing**

Integrate real content
into the prioritized
layout

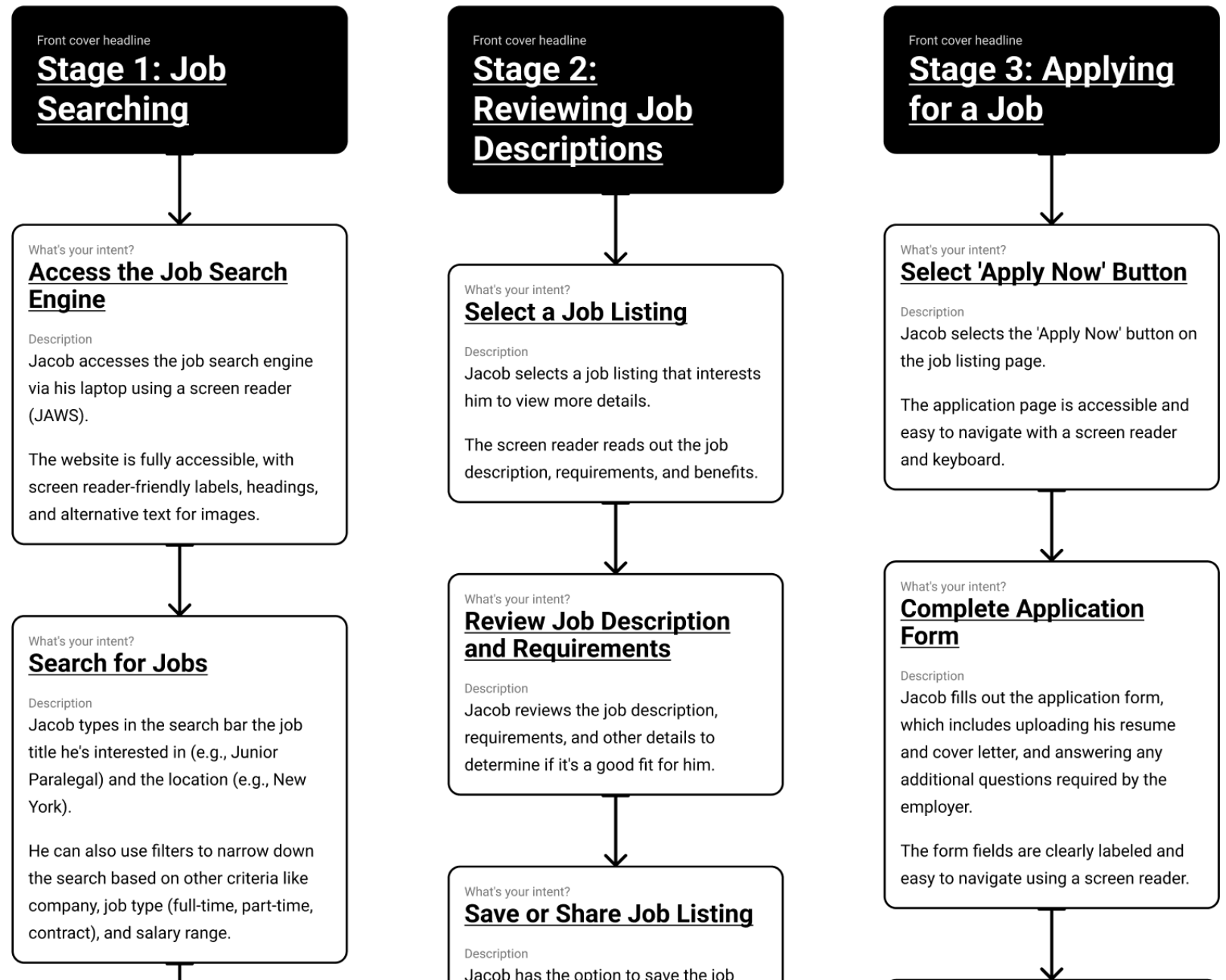
Step 1: User Flow Diagram

A flow diagram of the end-user's high-level motives when using a product or website.



Step 2: Detailed Journey Steps

Describe each step of the
user journey with
additional details.



What are priority guides?

Content headlines prioritized by user needs and intentions.

Priority Guides Example

Guide Template

Name

Headline

Description

What's the user's expectation? Please describe.

Role

Is it a group of items, a heading, a form input, a button or an image?

Expected action

How do you think the user will react?



Guide Example

Name

Search for jobs

Description

Search for keywords, company name, job title.

Role

Search input

Expected action

User keyboard input or dictation. Search action upon pressing submit button.



From Priority guides To Intent Framing

Guide Template

Name
Headline

Description
What's the user's expectation? Please describe.

Role
Is it a group of items, a heading, a form input, a button or an image?

Expected action
How do you think the user will react?



Guide Example

Name
Search for jobs

Description
Search for keywords, company name, job title.

Role
Search input

Expected action
User keyboard input or dictation. Search action upon pressing submit button.



A group of guides
create an intent
frame

Section Title
Search

Requirements
Job search section with two inputs for entering search string and location.

Name
Search for jobs

Description
Search for keywords, company name, job title.

Role
Search input

Expected action
User keyboard input or dictation. Search action upon pressing submit button.

Name
Location

Description
Enter a specific location or "remote". Enable your current location for sorting results by distance.

Role
input

Expected action
If geo-location is enabled, user will need to allow browser permission.



Page Title
Jobs at Great Places To Work

Description
Find your next job at one of the Top 100 Great Place to Work company.

Section Title
Search

Requirements
Job search section with two inputs for entering search string and location.

Name
Search for jobs

Description
Search for keywords, company name, job title.

Role
Search input

Expected action
User keyboard input or dictation. Search action upon pressing submit button.

Name
Location

Description
Enter a specific location or "remote". Enable your current location for sorting results by distance.

Role
input

Expected action
If geo-location is enabled, user will need to allow browser permission.

Section Title
Search Results

Requirements
List of results, sorted by distance if geo-location is enabled.

Fields:

- Job title
- Company name
- Full time, part-time, contract
- Date posted
- Job ID
- Description

Navigation

- Results
 - Pagination for every 10 results
- List item
 - Link to job description (JD)
 - Quick apply to skip JD
 - Share a position with others
 - Save for later

Name
Be confident! One of the [888] jobs we found can be yours.

Description
Number of results with an inspiring and uplifting message.



Intent Framing Activity

Designing with Words



Designing with Words Activity



This activity will help you outline a user-friendly, accessible interface for Jacob's job search journey.

bit.ly/a11y-prompts

Intent Framing



Take the content from priority guides and build a HTML page accessible to screen readers.

<https://nolatin.com/share/weiss-ux002>

nolatin.com (open-source)

≡ Rhonda Weiss Center Usability Studies ⓘ

Welcome to our Usability Study!

We appreciate your participation in our effort to improve the accessibility and user-friendliness of our IDEA data platform. The aim of this study is to understand how effectively our system enables diverse users, particularly those with disabilities, to access, navigate, and interpret the data we provide.

About this session

Today, you will be evaluating our platform's interface design. Your task will involve navigating our Public Overview page, searching for a specific report (Child Count), and analyzing the data within the report. We're particularly interested in your feedback about the usability of our system and how the data is organized.

Getting started

Please remember there is no right or wrong response—your experience and perceptions are what matter most to us. Our goal is to learn from you and make the necessary improvements to our system. Click on the link below to proceed to the Public Overview page and begin the evaluation. Thank you again for your participation.

[Continue to task instructions](#)

Accessible Prototype by [No Latin](#) - Shift-left Accessibility



No Latin

Rapid Prototyping with Accessibility in
Mind



Rapid Prototyping with Accessibility in mind



Stop using
Lorem Ipsum
It creates barriers

<https://nolatin.com>

No Latin Activity



This activity will showcase a quick tutorial on creating accessible interface for Jacob's job search journey.

bit.ly/a11y-prompts

UX Protocols

for Inclusive Usability Studies

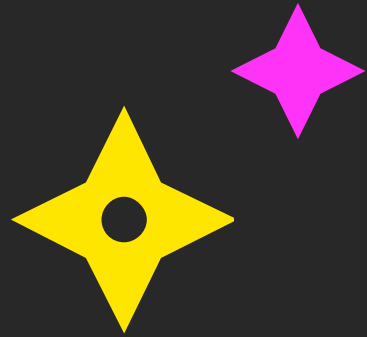


No Latin Usability Study (Showcase)



Demo of an accessible prototype
evaluated early in the design process by
Sarah Massengale.

bit.ly/weiss-ux002



"This is delicious!"

Sarah Massengale
Blind user, Accessibility Specialist





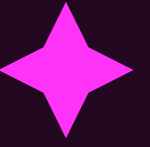
Testing with Screen Reader Users:

- ❖ Test with screen readers (JAWS, NVDA, VoiceOver) to ensure buttons, images (with alt text), and forms are announced properly.
- ❖ Use semantic HTML and ARIA roles to ensure that interactive elements are accessible to assistive technologies.



Get familiar with Screen Readers:

- ❖ Familiarize yourself with screen readers (JAWS, NVDA, VoiceOver) to understand the user perspective and troubleshoot issues.
- ❖ Test the prototype with different screen readers beforehand to catch major problems.
- ❖ Check out Deque's [Screen Reader Shortcuts and Gestures](#) for guidance.



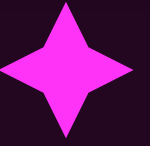
Prepare Clear Testing Scenarios:

- ❖ Design clear, real-world tasks that reflect how screen reader users would interact with the prototype.
- ❖ Avoid guiding the user. Let them navigate naturally, mirroring their everyday interactions.



Conduct a Pre-Test Briefing:

- ❖ Brief participants on the test process and understand their experience with their preferred screen reader.
- ❖ Ask about their settings (e.g., voice speed, verbosity) to ensure testing aligns with their typical usage.



Gather Qualitative Feedback:

- ❖ Pay close attention to screen reader users' verbal feedback and observe how they navigate and interact with the prototype.
- ❖ With permission, record the session to capture screen reader audio, helping developers identify specific challenges.

Testing for multiple disabilities



UX protocol for teams conducting accessible, inclusive usability studies for all users with multiple disabilities.

bit.ly/a11y-protocols

What to expect for Day-2?

Advocate

Identify accessibility requirements gaps.

Include people with disabilities.

Make

Accessibility-first:

- Tokens
- Components
- Patterns

Common inaccessible patterns

Accessibility Settings
Component



Challenge

Accessibility Settings
Component

- Not an overlay -



Digital Accommodations (Accessibility Settings)

Accessibility settings provide additional options to meet the user needs.

We all have needs and intersectionality, whether these are permanent, temporary or situational.

The interface features a blue header bar with icons and labels for Accessibility, Language, Readability, Layout, Spacing, Text, Contrast, and Colors. Below the header, there are seven white panels with drop-down arrows, each containing a title, a description, and a list of radio button options. The 'Language' panel lists English, Español, Chinese Mandarin, and Arabic. The 'Spacing' panel lists Default spacing, Comfort spacing, and Extra-comfort spacing. The 'Pick your preferred color scheme' panel includes a checked 'Add texture to colors' option and lists Light, Dark, System, Monokai Dark (highlighted in blue), Nord Dark, Nord Light, Solarized Dark, and Solarized Light. The 'Readability' panel lists Default language and Plain language. The 'Adjust text size' panel lists Default at 100%, Increase text by 150%, and Increase text by 200%. The 'Layout' panel lists Desktop (6 columns), Tablet (3 columns), and Mobile (1 column). The 'Contrast' panel lists Default contrast and High-contrast.

Accessibility > **Language** **ab** **|0|** **Spacing** **T↓** **Contrast** **Colors**

Language ▼
Select your preferred language.

- ☒ English
- ☐ Español
- ☐ Chinese Mandarin
- ☐ Arabic

Spacing ▼
The spacing setting lets you adjust the distance between elements on the page.

- ☒ Default spacing
- ☐ Comfort spacing
- ☐ Extra-comfort spacing

Pick your preferred color scheme ▼
This setting lets you choose your favorite colors for the screen.

- ☒ Add texture to colors
- Light
- Dark
- System
- Monokai Dark**
- Nord Dark
- Nord Light
- Solarized Dark
- Solarized Light

Readability ▼
The readability setting adjusts the text to make it easier for you to read and understand.

- ☐ Default language
- ☒ Plain language

Adjust text size ▼
The text-size setting allows you to adjust how big or small the words appear on the screen.

- ☒ Default at 100%
- ☐ Increase text by 150%
- ☐ Increase text by 200%

Layout ▼
The layout setting allows you to change how content is arranged on the screen.

- ☒ Desktop (6 columns)
- ☐ Tablet (3 columns)
- ☐ Mobile (1 column)

Contrast ▼
The contrast setting changes how bright or dark the colors are on your screen.

- ☒ Default contrast
- ☐ High-contrast





Questions & Answers

20 minutes day-2



Thank you!

Please provide your feedback

Connect to have a
review session with Marcelo

