

UI/UX DESIGN

Lecture 5. Grids. Usability

GRIDS

Grids help designers create cohesive layouts, allowing end users to easily scan and use interfaces. A good grid adapts to various screen sizes and orientations, ensuring consistency across platforms.

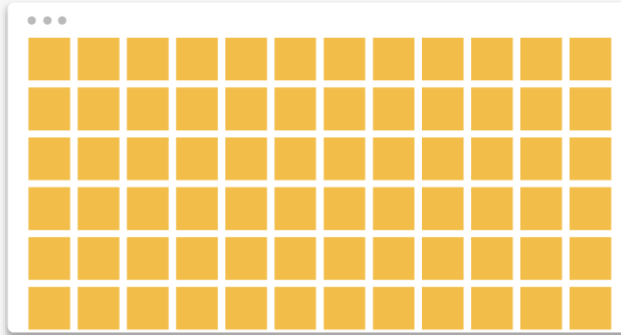
Grid: A visual made up of columns, gutters, and margins that provide a structure for the layout of elements on a page.

Common Grid Structures in Websites and Interfaces



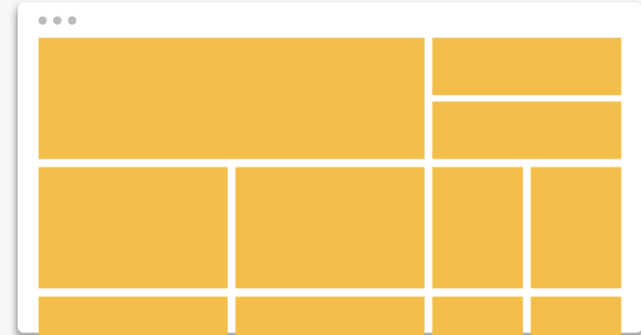
COLUMN

Desktop commonly
uses 12 columns



MODULAR

Great for ecommerce
and listing pages



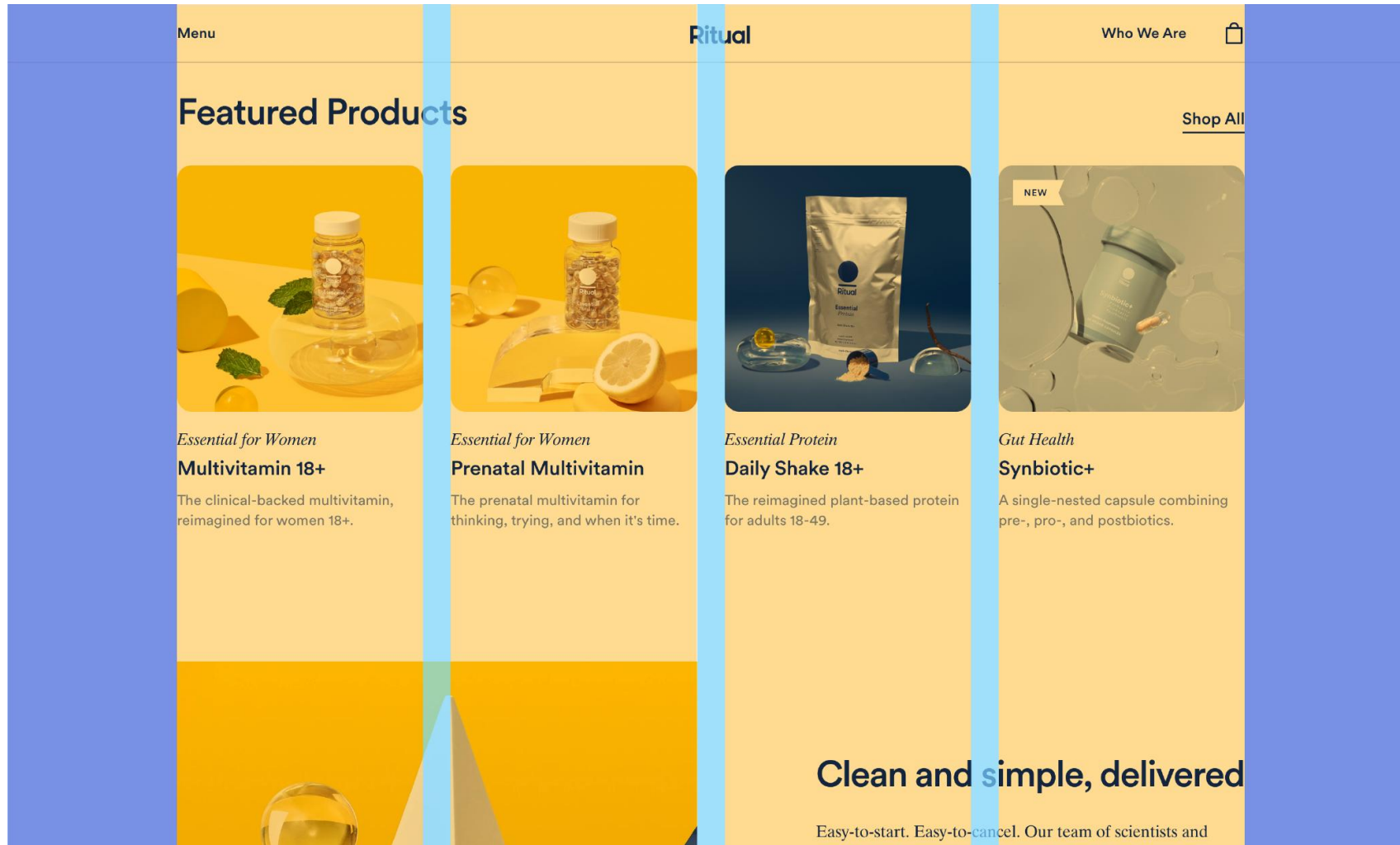
HIERARCHICAL

Content organized
by importance

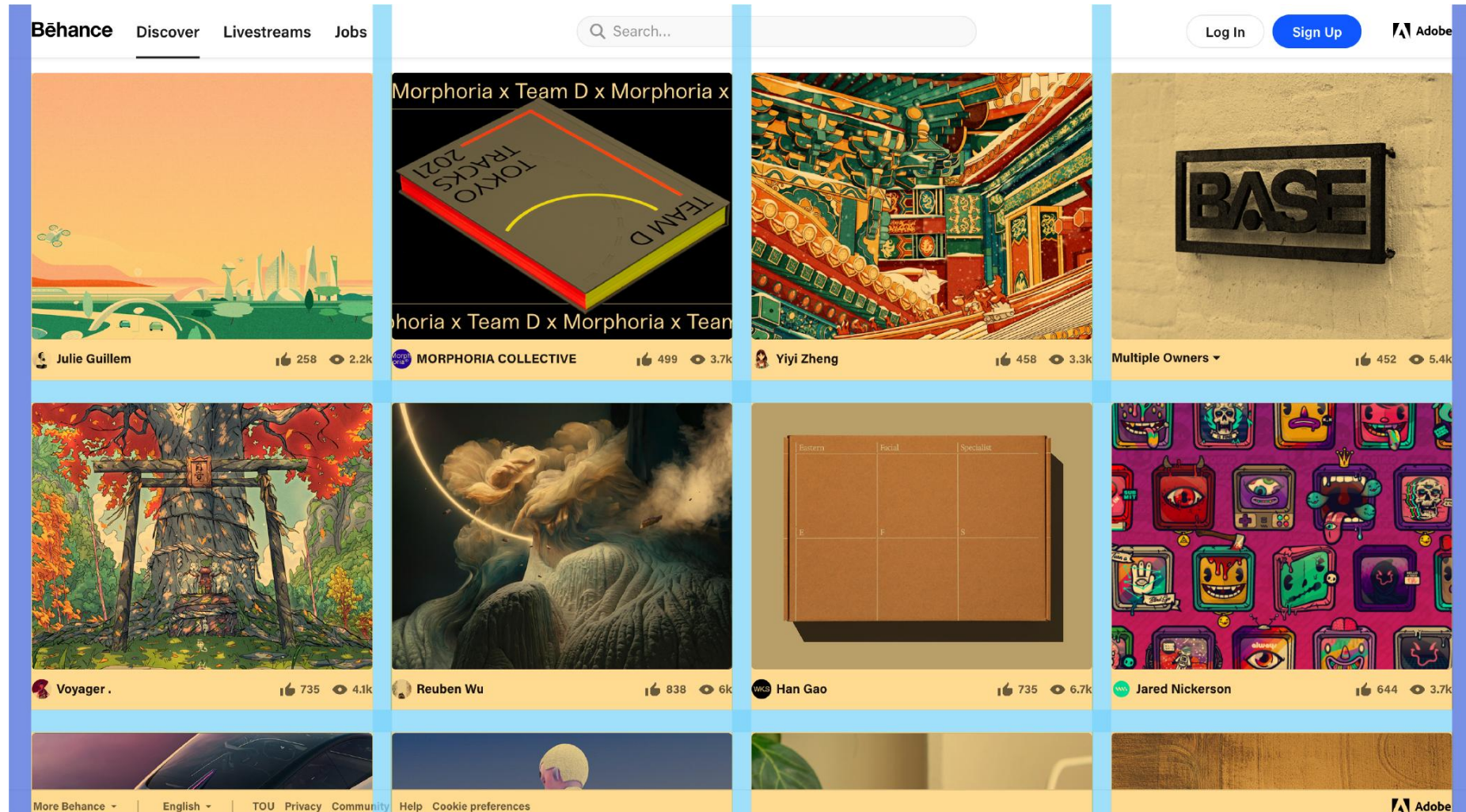
Hierarchical Grid



Column Grid

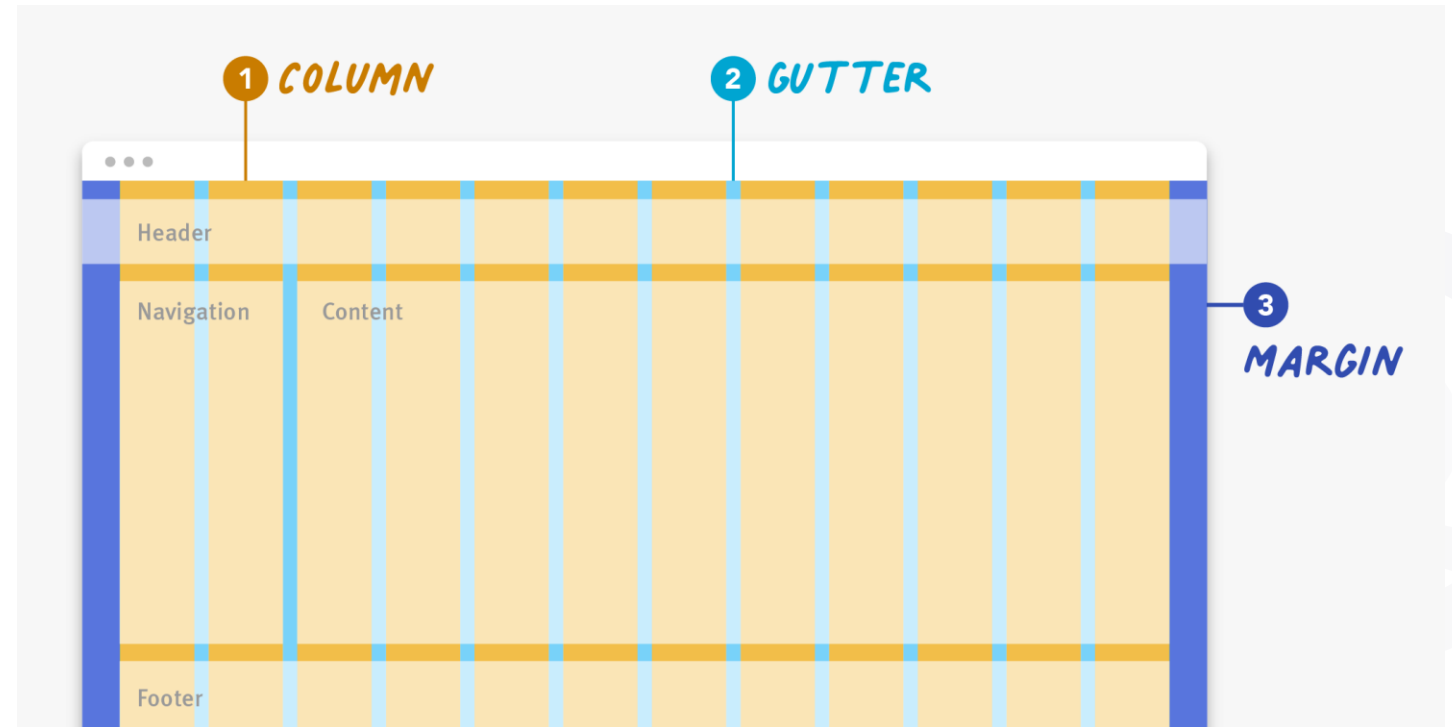


Modular Grid



Anatomy of a UI Grid

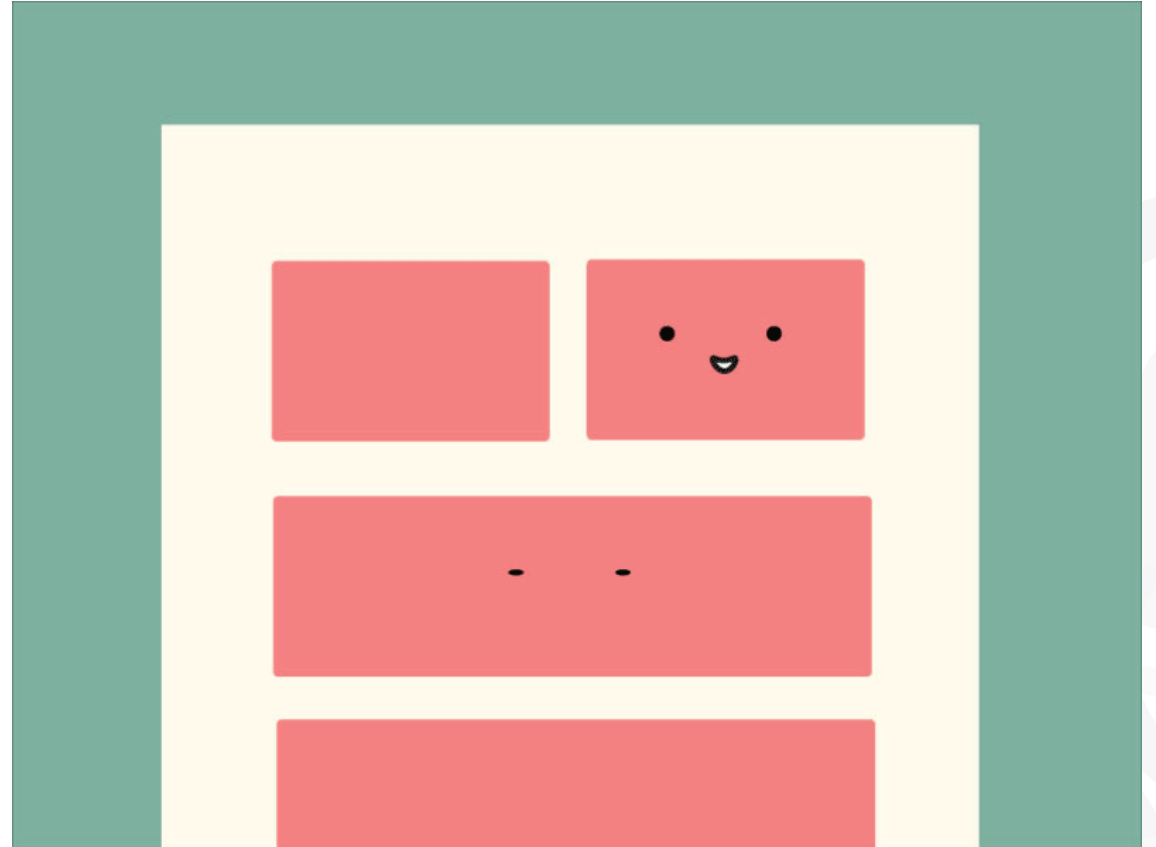
- **Columns:** Vertical divisions of the grid, providing a structure for organizing content within the layout.
- **Gutters (alleys):** The space between columns providing breathing room and separation for content within the grid.
- **Margins:** The space around the outer edges of the grid separating the design elements from the edge of the canvas or screen.



FLUID GRIDS

Fluid grids are a modern UI design approach that facilitates flexible, responsive layouts that automatically adjust to various screen sizes and devices.

Front-end devs achieve this fluidity using relative units like percentages instead of fixed units like pixels.



How to Create and Use UI Grids

- Determine the purpose and content structure
- Choose the appropriate grid type
- Establish margins and gutters
- Define column and row sizes
- Align elements and text
- Break the grid for emphasis and variety

WHAT IS USABILITY?

- Often get confused usability with user experience.
- Usability is a component of user experience (UX) design.
- Usability-is second level in user experience according to the Nielsen Norman Group



QUALITY COMPONENTS OF USABILITY

01

LEARNABILITY

How easily can users perform tasks initially?

02

EFFICIENCY

How easily can users perform tasks after learning?

03

MEMORABILITY

How easily can users reestablish proficiency?

04

ERRORS

How easily can users recover from errors?

05

SATISFACTION

How pleasant is to use the design?

How to Design for Optimum Usability

You should first focus on how well your design will flow in context. That means you focus on it as a whole—not on its parts(e.g., individual web pages)—and make content simple.

“Usability is about human behavior. It recognizes that humans are lazy, get emotional, are not interested in putting a lot of effort into, say, getting a credit card and generally prefer things that are easy to do vs. those that are hard to do.”

David McQuillen, ex-Swiss banker and founder of Sufferfest cycling workout resources



Jakob Nielsen's Usability Heuristics

10 Usability Heuristics



Visibility of
System Status



Match Between System
& the Real World



User Control
& Freedom



Consistency & Standards



Error Prevention



Recognition Rather
than Recall



Flexibility &
Efficiency of Use



Aesthetic &
Minimalist Design



Help Users Recognize, Diagnose
& Recover from Errors



Help &
Documentation

Interaction Design Foundation
interaction-design.org

Visibility of system status



The design should always keep users informed about what is going on, through appropriate feedback within a reasonable amount of time.

Match between system and the real world



iBooks iPad application using the metaphor of wooden book shelf.



Using real life metaphor in computer application.

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.

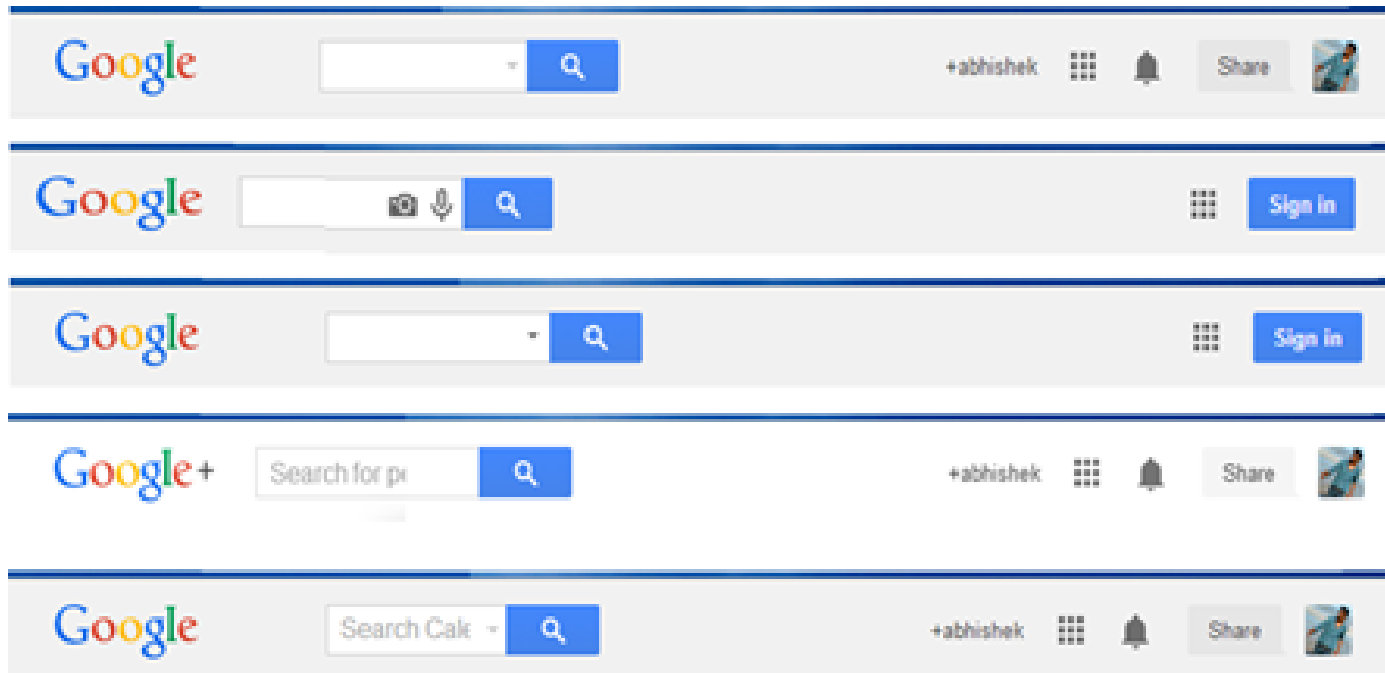
User control and freedom



Mozilla suggests some security tips and handling exceptions.

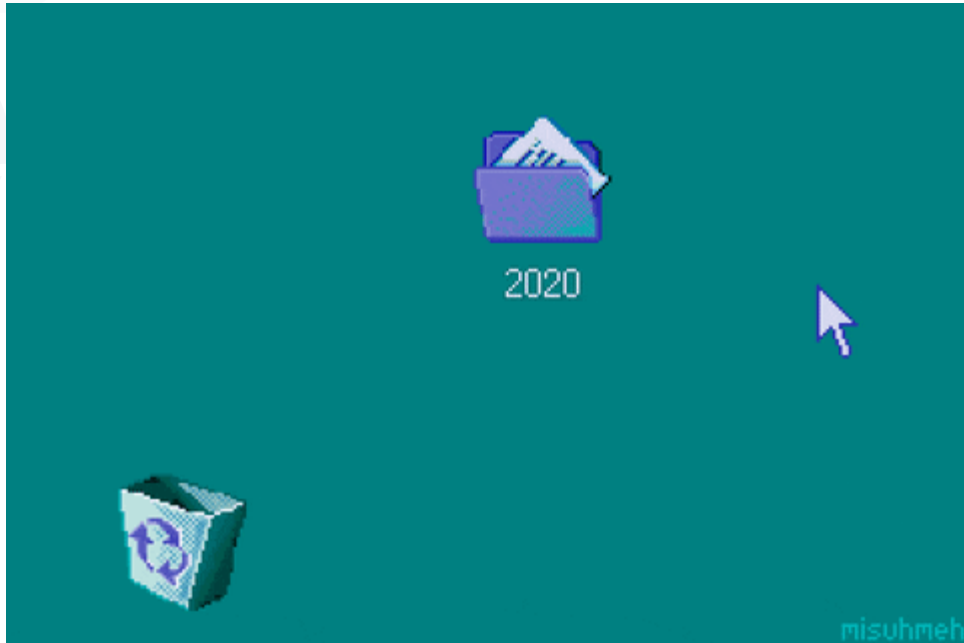
Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action without having to go through an extended process.

Consistency and standards



Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform and industry conventions.

Error prevention



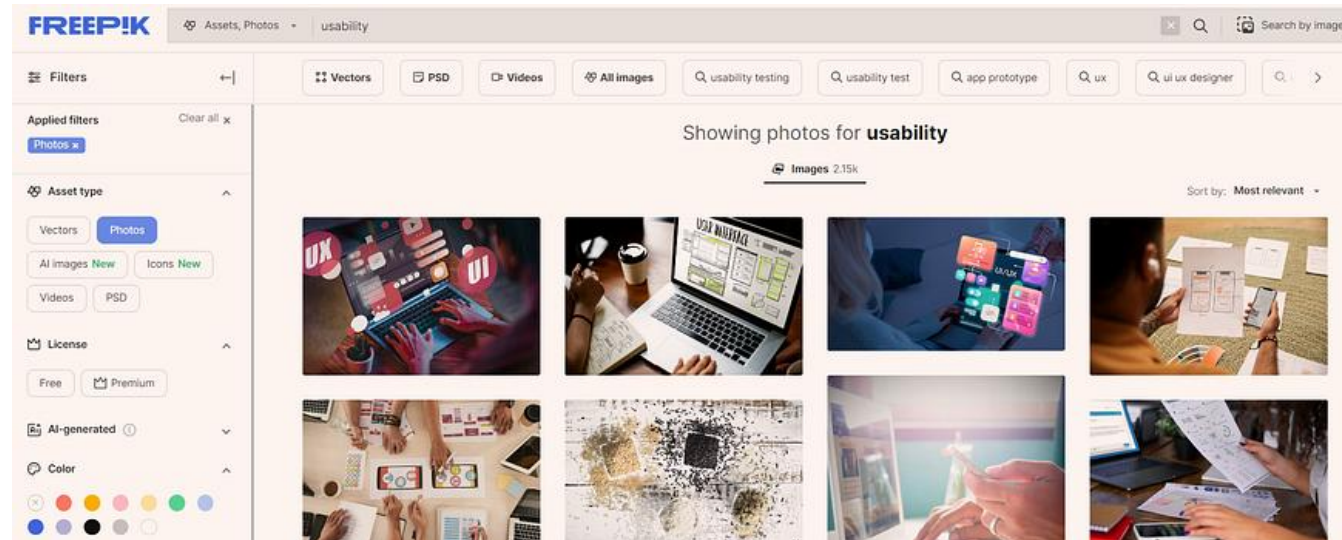
Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions, or check for them and present users with a confirmation option before they commit to the action.

Recognition rather than recall



Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.

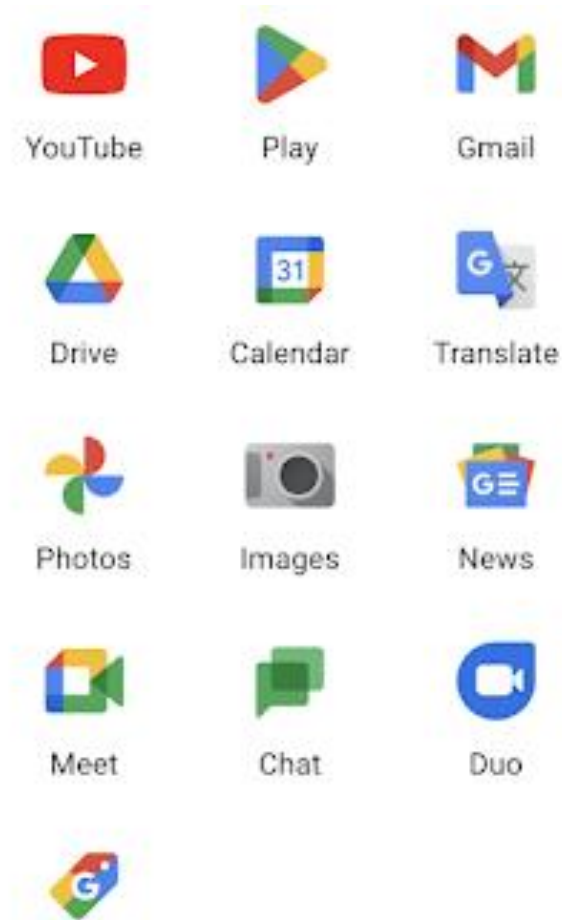
Flexibility and efficiency of use



New users can search for images, expert users can use filters for favorable results.

Shortcuts — hidden from novice users — may speed up the interaction for the expert user so that the design can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Aesthetic and minimalist design



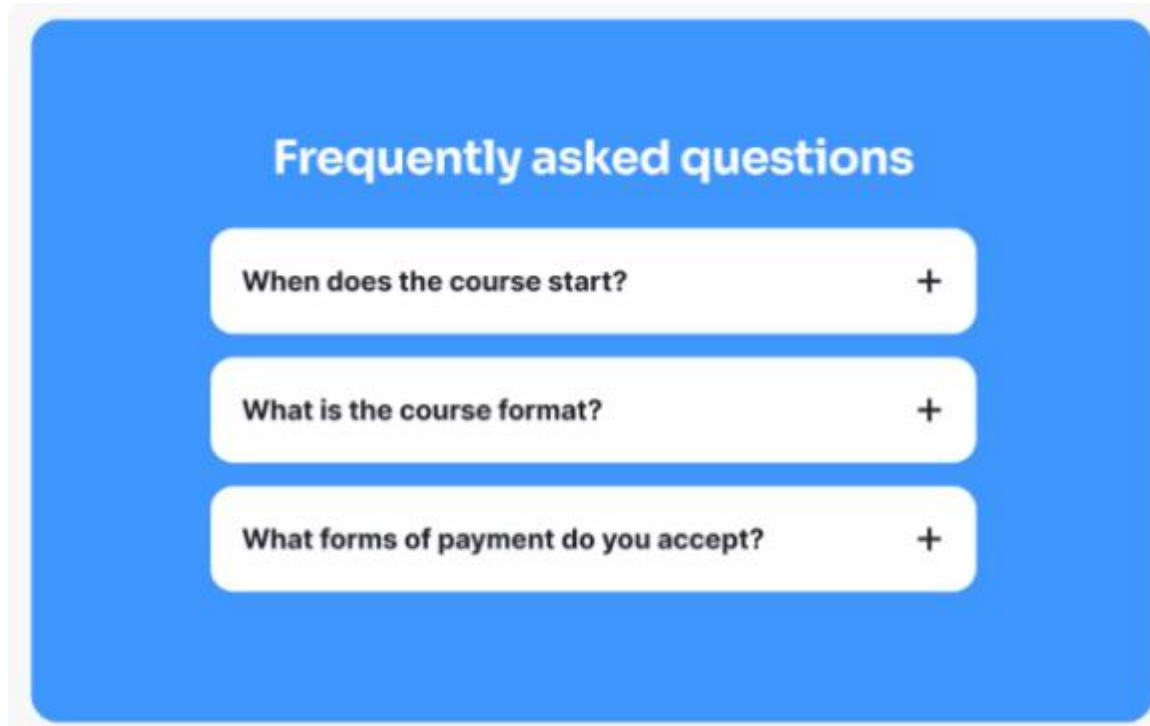
Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information in an interface competes with the relevant units of information and diminishes their relative visibility.

Help users recognize, diagnose, and recover from errors



Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.

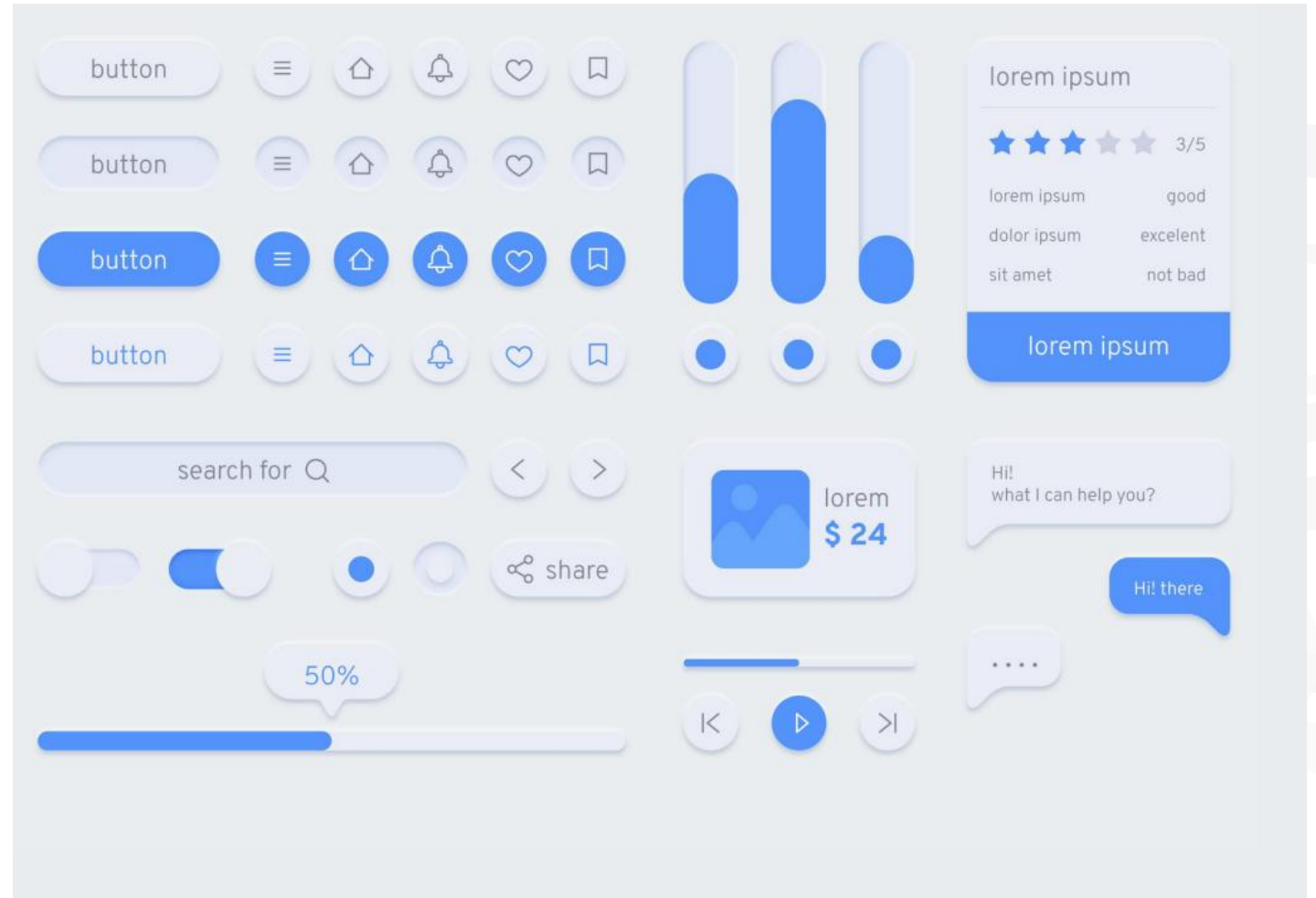
Help and Documentation



It's best if the system doesn't need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.

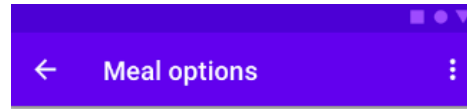
USER INTERFACE ELEMENTS

- Input Controls
- Navigational Components
- Informational Components
- Containers



INPUT CONTROLS

- Checkboxes
- Radio buttons
- Dropdown lists



- ☒ Additions
- ☐ Pickles
 - ☒ Tomato
 - ☐ Lettuce
 - ☐ Cheese

Select an item:

Item 2



- Phone ringtone
- ☐ None
 - ☒ Callisto
 - ☐ Ganymede
 - ☐ Luna

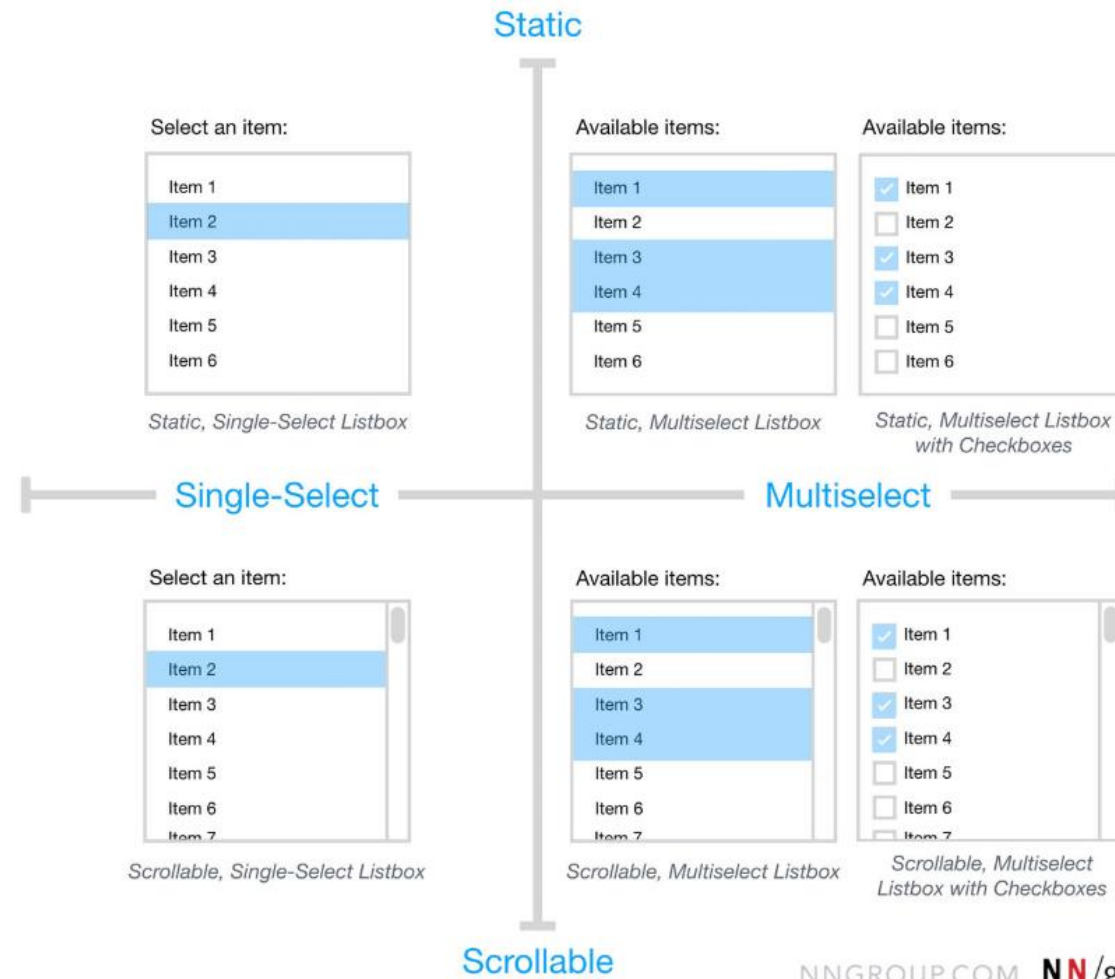
- Sliders

Width

Height

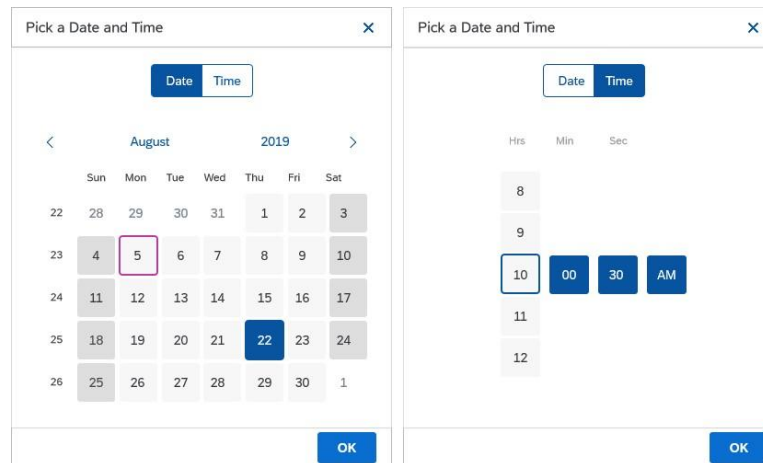
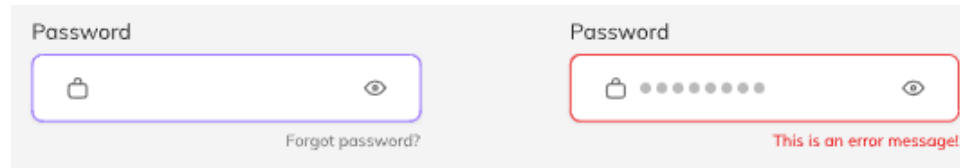
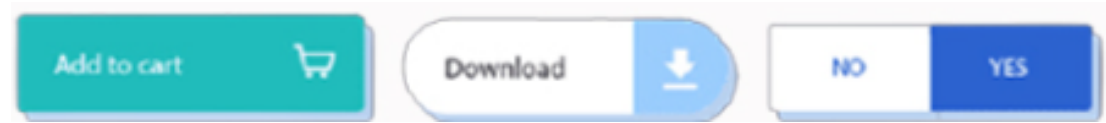
INPUT CONTROLS

- List boxes



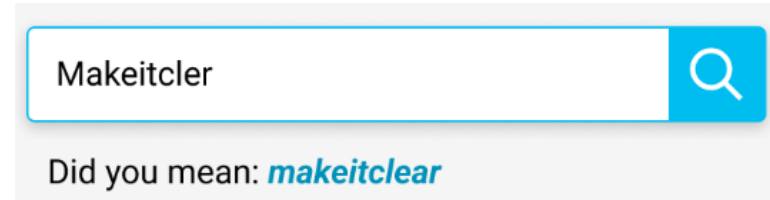
INPUT CONTROLS

- Buttons
- Toggles
- Text fields
- Date and time pickers



NAVIGATIONAL COMPONENTS

- Search Field

A search field with a light gray border and a blue search button on the right. The text "Makeitcler" is entered. Below the field, a suggestion "Did you mean: [makeitclear](#)" is displayed in blue text.

Makeitcler

Did you mean: [makeitclear](#)

- Breadcrumb

A green breadcrumb trail with a white mouse cursor pointing at the "Customization" link.

[Home](#) > [Settings](#) > [Customization](#) > [Green](#)

- Pagination

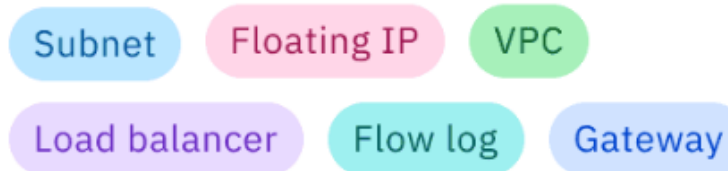
A pagination control with buttons for navigation and page numbers. The first page is highlighted in blue.

< 1 2 3 ... 10 >

Results: 1 - 10 of 96

10 ▼

- Tags

A collection of six colored, rounded rectangular tags arranged in two rows. The first row contains "Subnet" (blue), "Floating IP" (pink), and "VPC" (green). The second row contains "Load balancer" (purple), "Flow log" (teal), and "Gateway" (light blue).

Subnet Floating IP VPC

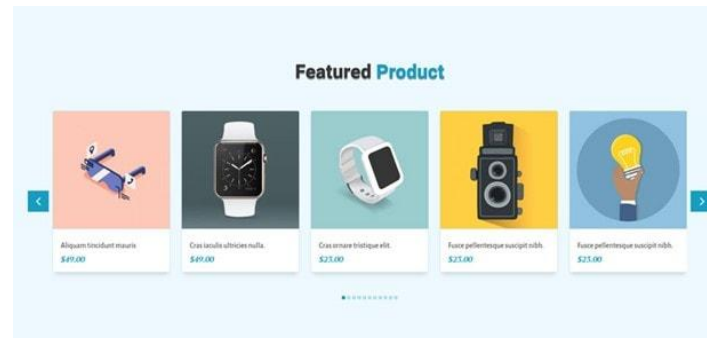
Load balancer Flow log Gateway

NAVIGATIONAL COMPONENTS

- Icons

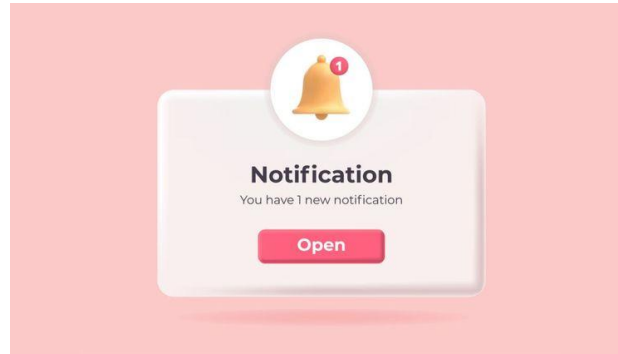


- Image Carousel



INFORMATIONAL COMPONENTS

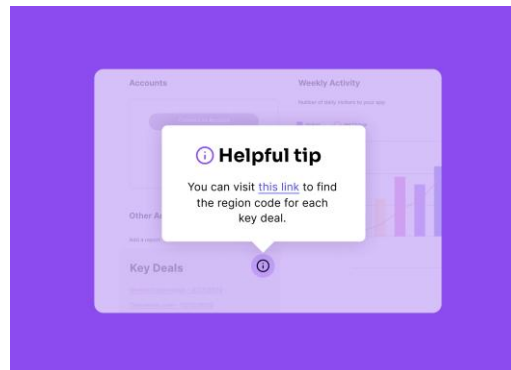
- Notifications



- Progress Bars

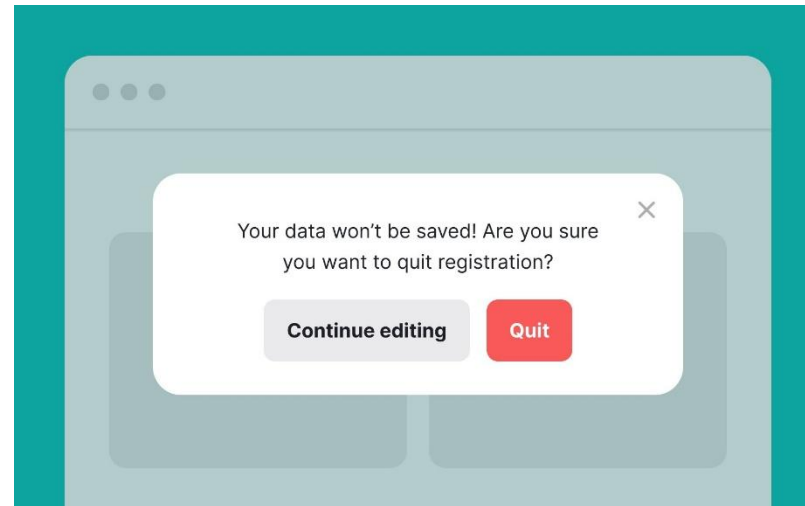
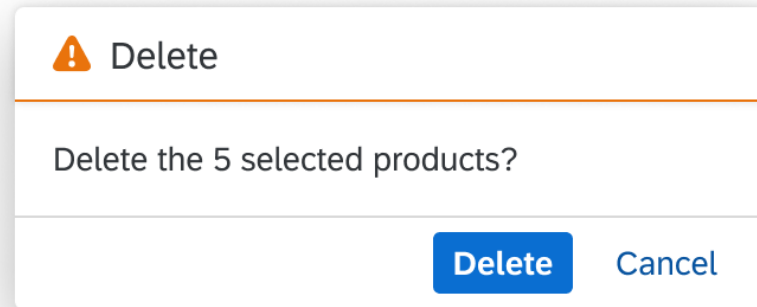


- ToolTips



INFORMATIONAL COMPONENTS

- Message Boxes
- Modal Window (pop-up)



CONTAINERS

- Accordion

Accordion

Heading	▼
Heading	▲
The panel appears when the accordion is expanded.	
Heading	▼

USABILITY TESTING

Usability testing is a research method used to evaluate how easily users can interact with a product (website, app, software, or even a physical device). Unlike traditional testing that focuses on functionality (e.g., "Does the button work?"), usability testing asks:

- **Can users complete tasks efficiently?**
- **Do they understand how to navigate?**
- **Are there any points of frustration?**

The phrase "usability testing" is often used interchangeably with "user testing".



WHY USABILITY TESTING?

The phrase “usability testing” is often used interchangeably with “user testing”.



Uncover Problems
in the design



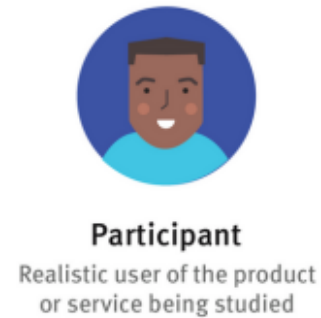
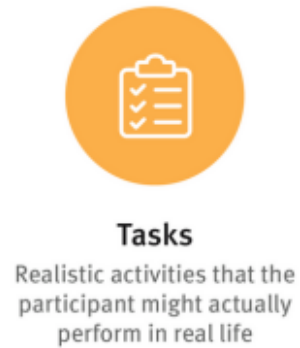
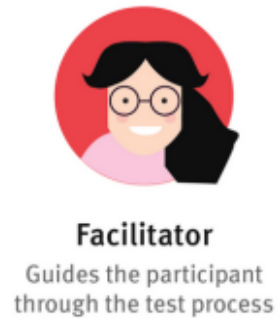
Discover Opportunities
to improve the design



Learn About Users
behavior and preferences

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ELEMENTS OF USABILITY TESTING



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FACILITATOR IN USABILITY TESTING

- Guides the participant through the test process.
- Works to ensure that result is a high-quality, valid data.



TASKS IN USABILITY TESTING

- The tasks in a usability test are realistic activities that the participant might perform in real life.
- Task wording is very important, because errors in the task can decrease the quality of result data.
- Tasks can be delivered verbally or written on task sheets.



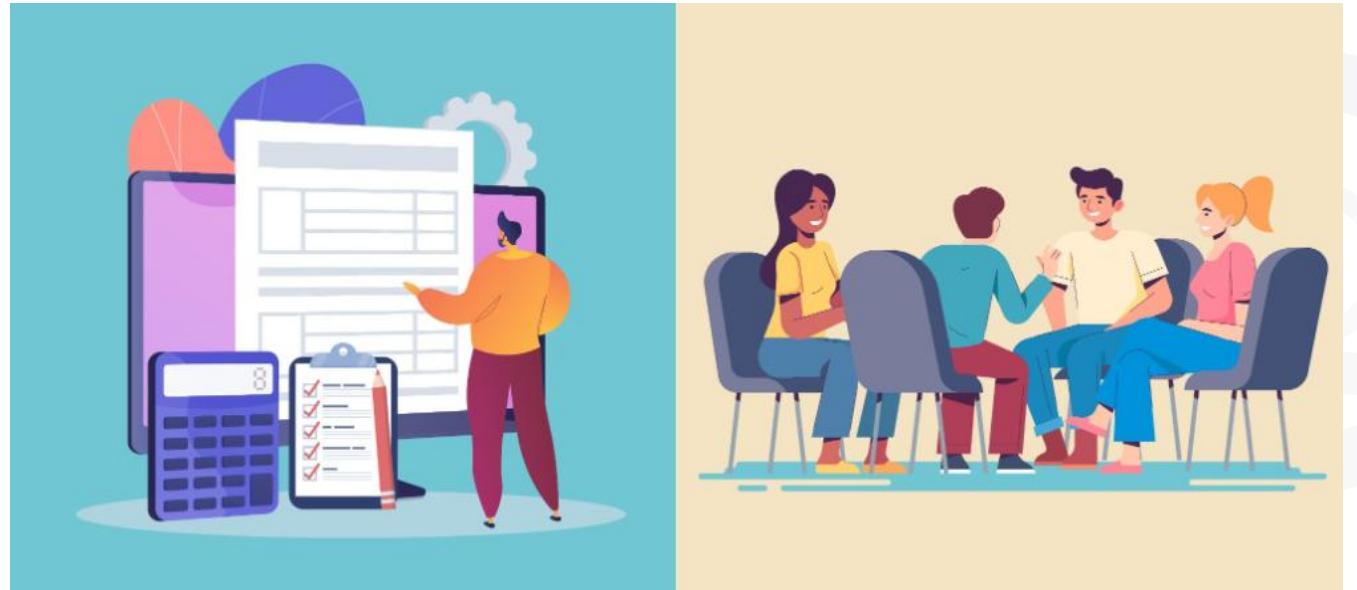
PARTICIPANT IN USABILITY TESTING

- The participant should be a realistic user of the product being studied.
- “Think-aloud Protocol”



TYPES OF USABILITY TESTING: QUALITATIVE VS. QUANTITATIVE TESTING

- **Qualitative usability testing** focuses on collecting insights, findings about how people use the product or service.
- **Quantitative usability testing** focuses on collecting metrics that describe the user experience.



TYPES OF USABILITY TESTING: REMOTE VS. IN-PERSON TESTING

- **Remote moderated** usability test works the same as in-person studies. But moderator and participant in different physical locations.
- **Remote unmoderated** now this type of testing differs from the tests mentioned before. The researcher uses an online remote-testing tool to set up tasks for participants

Remote Unmoderated: Flow of Information



The background is a solid blue color. On the left side, there is a cluster of overlapping circles in various shades of blue and white. A large, white, semi-transparent crescent shape is positioned in the center, partially overlapping the circles. The text "THANKYOU!" is written in white, uppercase letters on the right side of the image.

THANKYOU!