



User Experience Design

Web Developer 2025



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Agenda

- Hello ☺
- UX...?
- Practical stuff
 - A brief history lesson
 - UX research
 - Sketching
 - Design methods
 - Assignment

What is a good experience?



User behavior

Design

OFFICIAL BALLOT, GENERAL ELECTION
PALM BEACH COUNTY, FLORIDA
NOVEMBER 7, 2000

(REPUBLICAN)	
GEORGE W. BUSH - PRESIDENT	3 ➤
DICK CHENEY - VICE PRESIDENT	
(DEMOCRATIC)	
AL GORE - PRESIDENT	5 ➤
JOE LIEBERMAN - VICE PRESIDENT	
(LIBERTARIAN)	
HARRY BROWNE - PRESIDENT	7 ➤
ART OLIVIER - VICE PRESIDENT	
(GREEN)	
RALPH NADER - PRESIDENT	9 ➤
WINONA LaDUKE - VICE PRESIDENT	
(SOCIALIST WORKERS)	
JAMES HARRIS - PRESIDENT	11 ➤
MARGARET TROWE - VICE PRESIDENT	
(NATURAL LAW)	
JOHN HAGELIN - PRESIDENT	13 ➤
NAT GOLDHABER - VICE PRESIDENT	

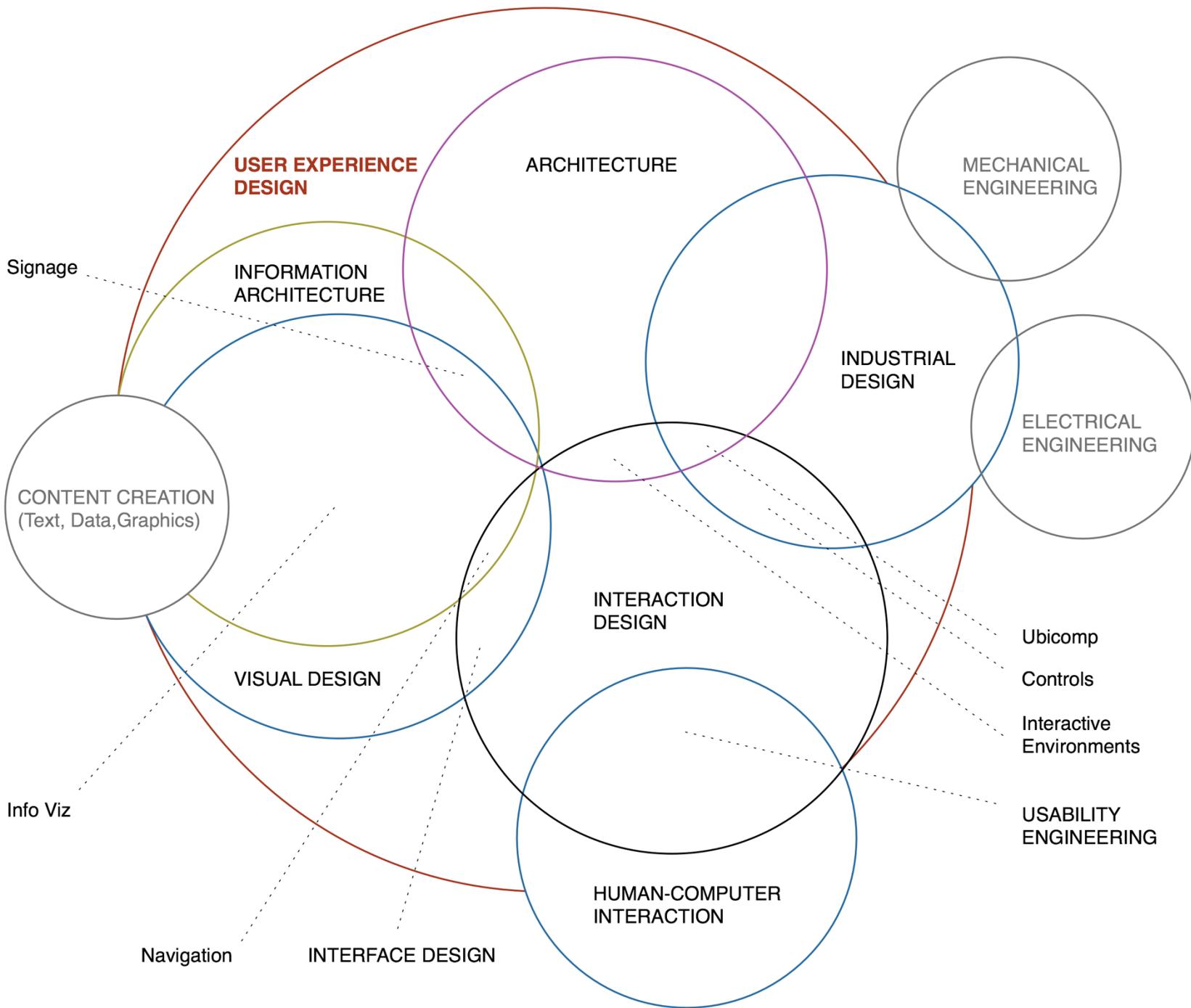
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electors.)

A

OFFICIAL BALLOT, GENERAL ELECTION
PALM BEACH COUNTY, FLORIDA
NOVEMBER 7, 2000

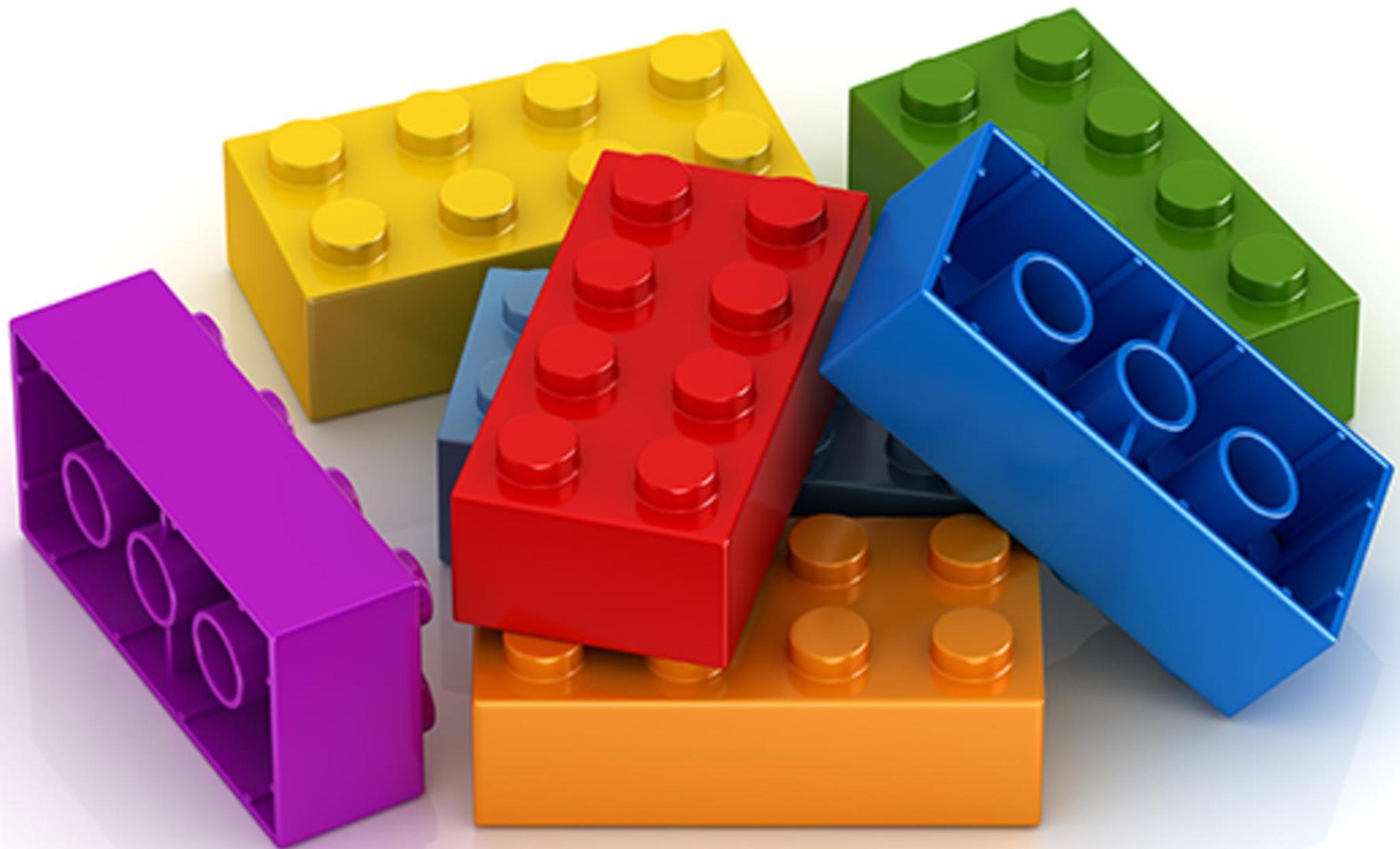
(REFORM)	
PAT BUCHANAN - PRESIDENT	◀ 4
EZOLA FOSTER - VICE PRESIDENT	
(SOCIALIST)	
DAVID McREYNOLDS - PRESIDENT	◀ 6
MARY CAL HOLLIS - VICE PRESIDENT	
(CONSTITUTION)	
HOWARD PHILLIPS - PRESIDENT	◀ 8
J. CURTIS FRAZIER - VICE PRESIDENT	
(WORKERS WORLD)	
MONICA MOOREHEAD - PRESIDENT	◀ 10
GLORIA La RIVA - VICE PRESIDENT	
WRITE-IN CANDIDATE	
To vote for a write-in candidate, follow the directions on the long stub of your ballot card.	





Subjects

- HCI, User journeys
- Design methods
- Wireframing, flowcharts
- Typography, colors, layout
- User types, personas, user stories
- User testing, heuristics
- Data driven design, analytics
- Design ethics, accessibility
- Prioritizing features, simplification
- Design systems
- And more!



Moodle

Tools

- Pen and paper
- Figma
- VS Code
- Curiosity 😊

Assignments ("OLAs")

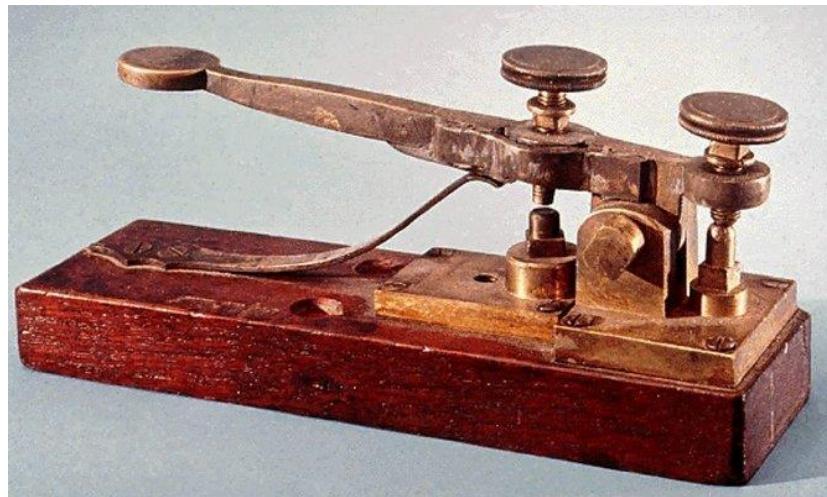
- 5 assignments (2-4 weeks each)
- Group work
- Presentations in class
- You need 4/5 assignments approved to be enrolled for the oral exam

Exam

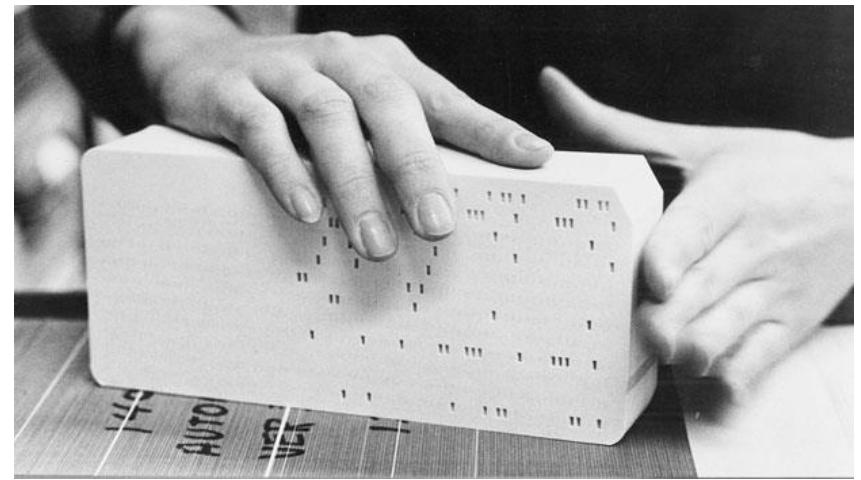
- 48-hour group exam
- You get an assignment and have 48 hours to create a solution
- 1-hour oral exam
- Dates
 - Case hand-out: May 19 and 20
 - Oral exam: May 21 and 22

The history of interaction design

1830-1940: The Telegraph



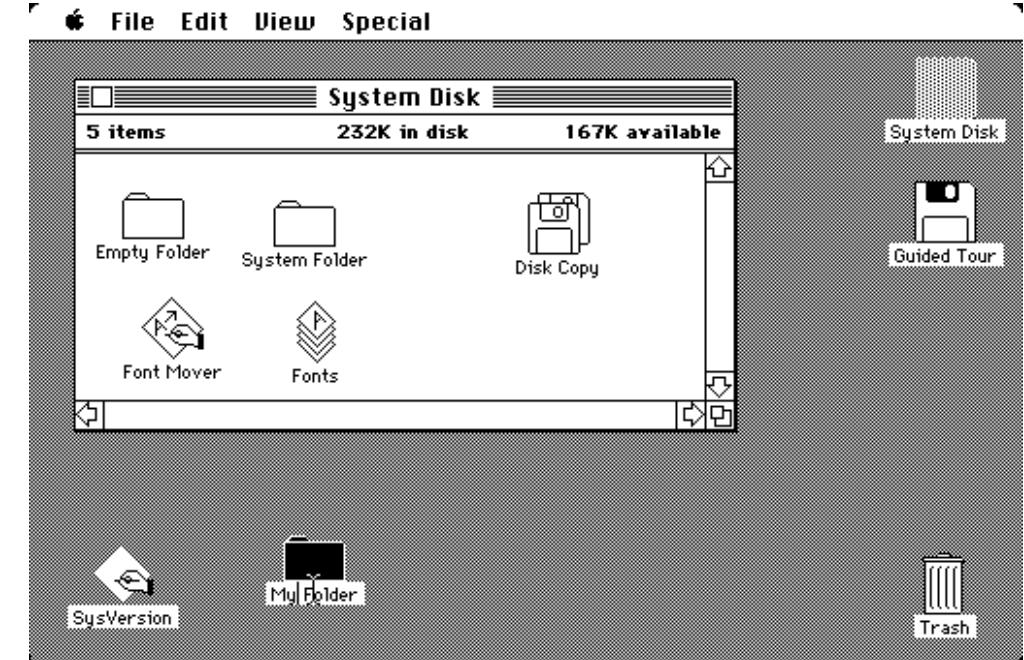
1940-1960: Punch Cards



1960-1970: Controls



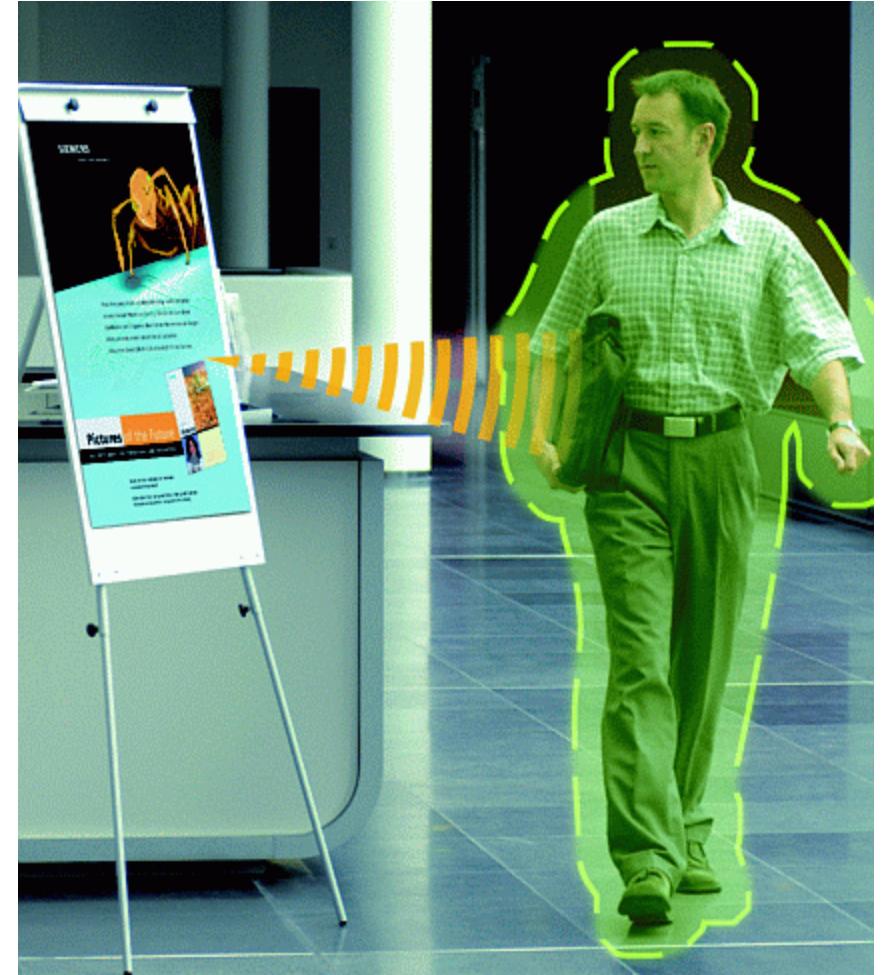
1980s: PC and GUI



1990s: Network Computing



2000-present: Internet of Things & AI



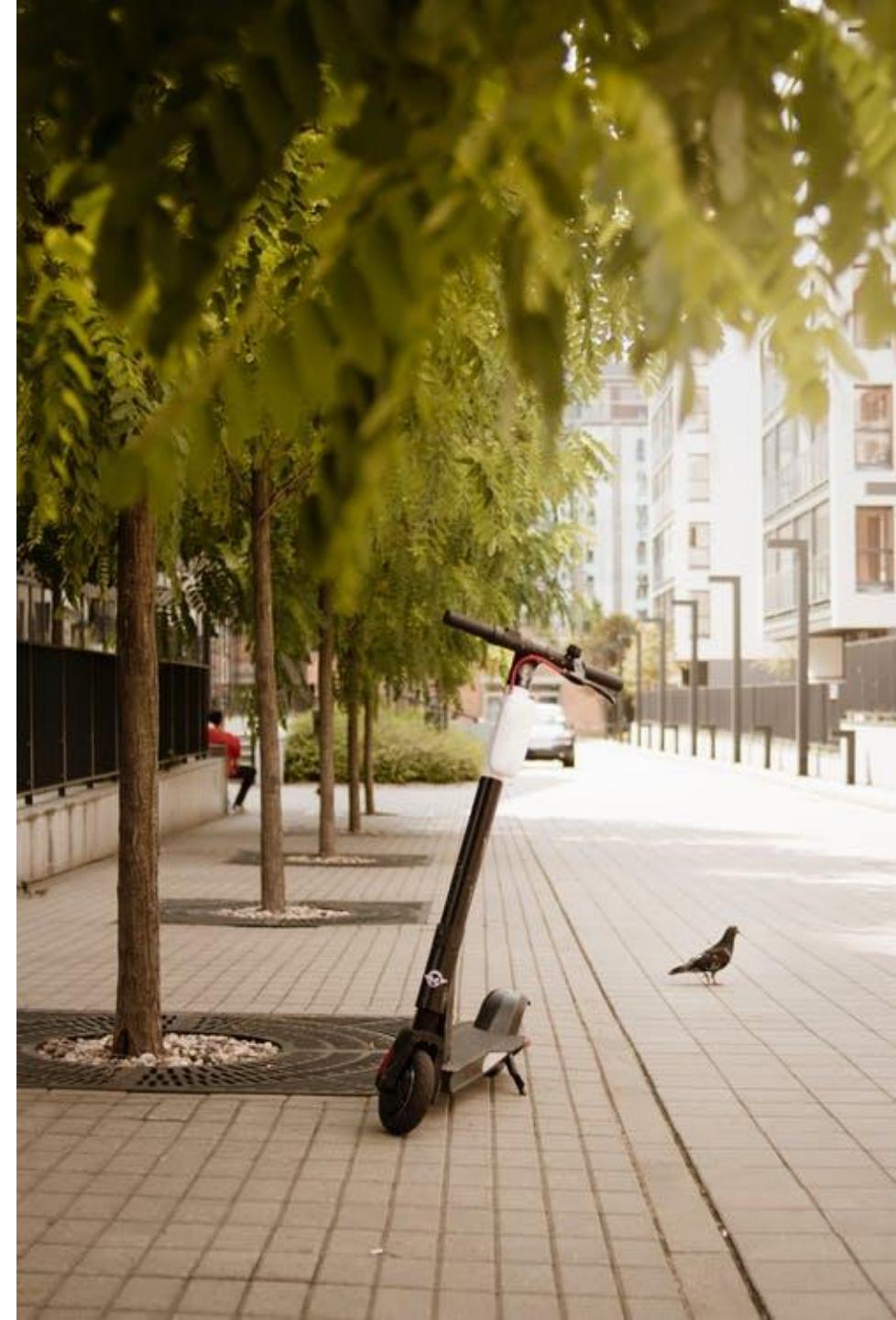
UX research

If I had 20 days to solve a problem, I would take 19 days to define it.

– Albert Einstein

Why do research?

- To find out if your product is **relevant** for the target group
- To find out if your product deliver a good **user experience**
- To find out if your new product is **better** than the old version (ROI)
- **Assumptions** are the root of all fuckups!



As a minimum, user research should tell us about...

- **People**
Who are the users? What do they want? What are their pain points?
- **Problems**
What elements of the current design is causing problems?
- **Priorities**
Which problems are most critical to solve?

The 3 P's

Research

Primary data

Data YOU collect



Secondary data

Data already collected by others



Quantitative research

- Provide data that can be expressed in numbers
 - Insight: General trends based on data
-
- Common methods
 - Analytics (analyzing statistics)
 - A/B testing
 - Questionnaires

Qualitative research

- Describes the qualities or characteristics of something
 - Insight: Behavior and opinions from individuals
-
- Common methods
 - Observation
 - Interview
 - Focus groups
 - User testing

Field studies

- Naturalistic observations studying the user “in the wild”
- Insights more reliable when users stay in their “natural habitat”
- Classic field study methods:
 - Observations
 - Interviews



User observations

Through observation, the researcher try to answer questions like:

- What goals are users trying to achieve?
- How do they currently do it?
- What parts do they love or hate?
- What difficulties do they experience along the way?
- What workarounds do they use?









“It’s important to use your hands. This is what distinguishes you from a cow or a computer operator.”

— Paul Rand



A stack of hand-drawn UX sketches on lined paper. The sketches show various wireframe designs for mobile and web applications, including navigation bars, content cards, and form fields. The paper is white with light blue horizontal lines.

UX-sketching is about
communicating ideas

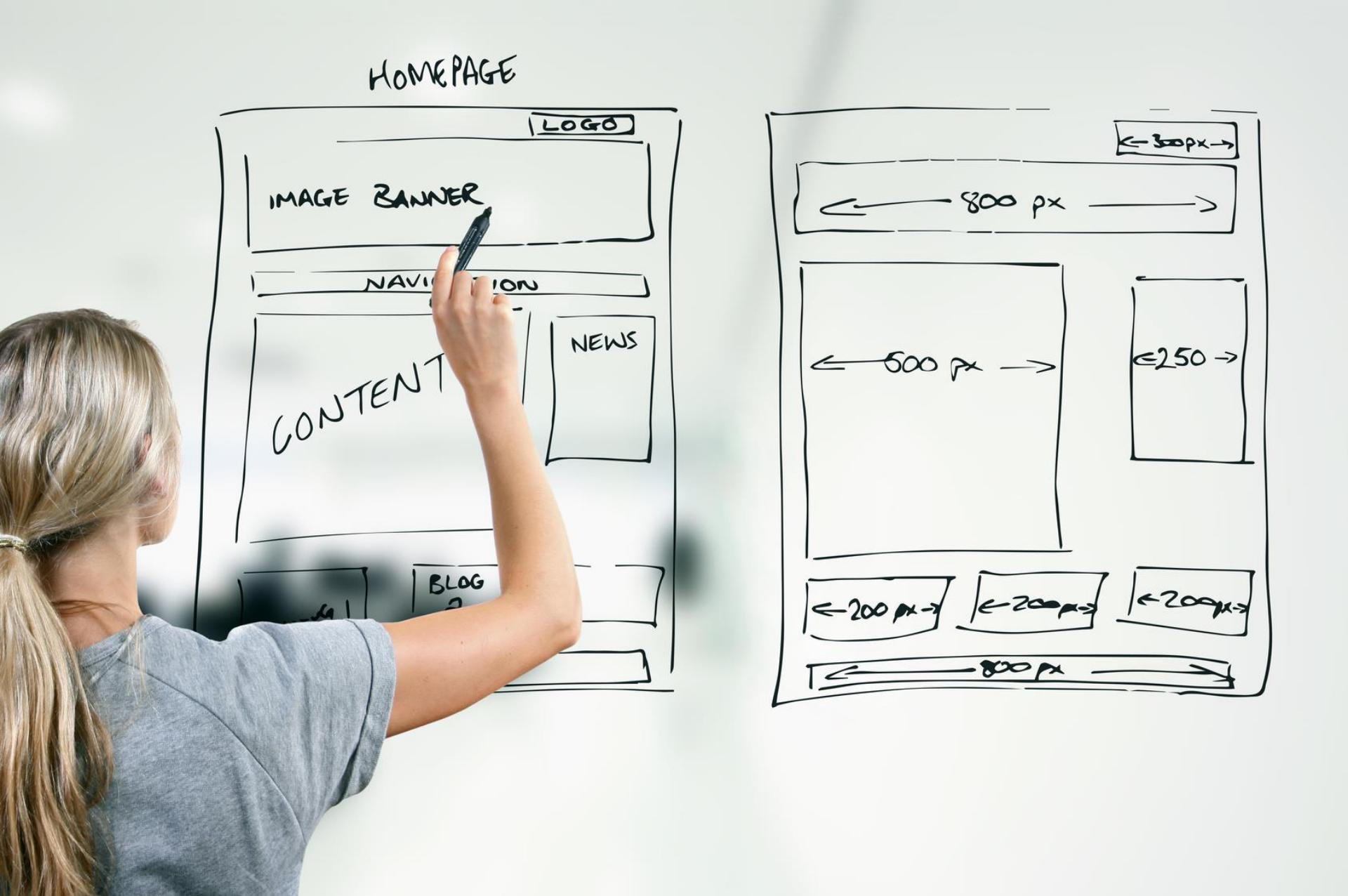


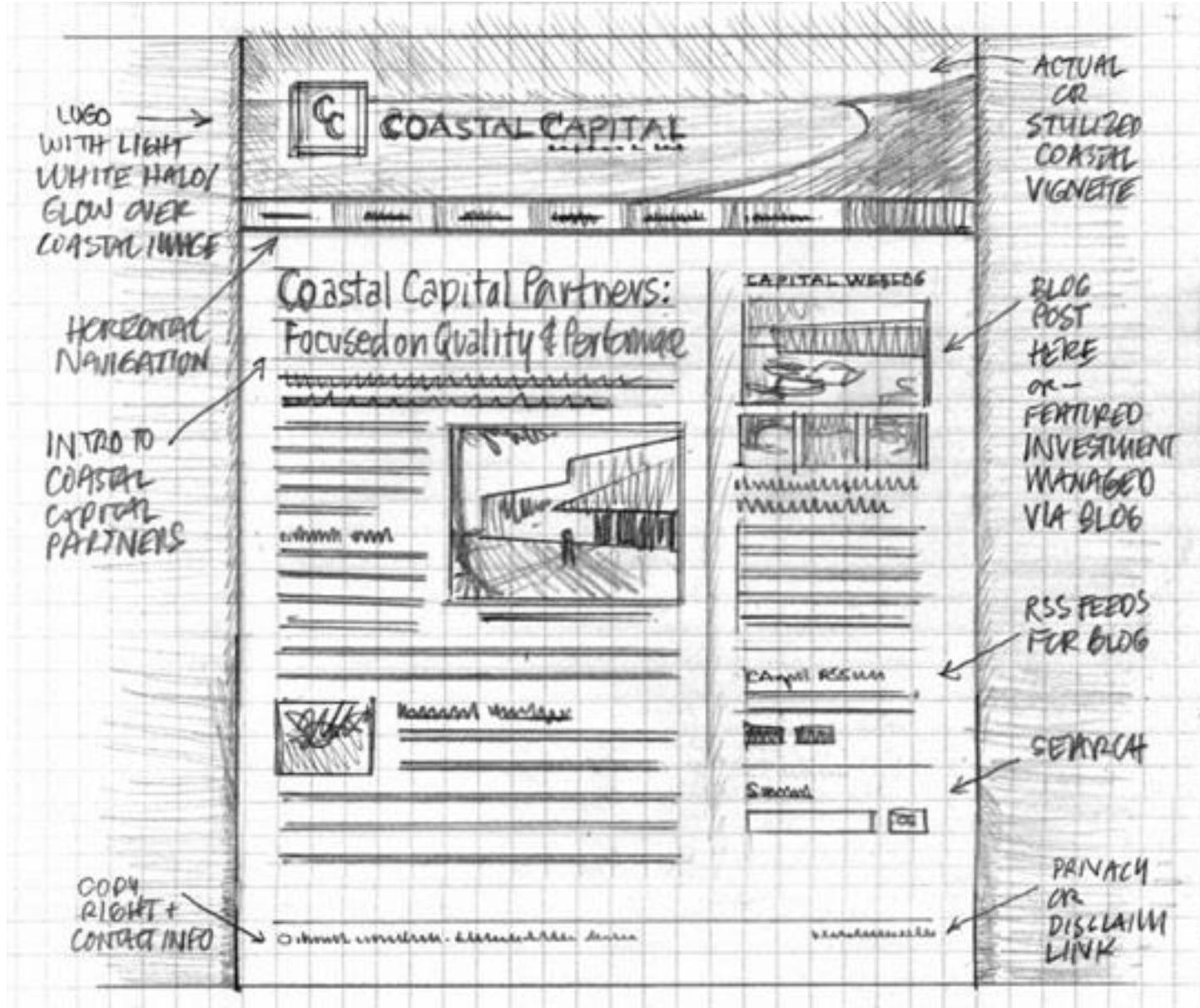


Draw the object on the next slide...
(in 5 seconds!)









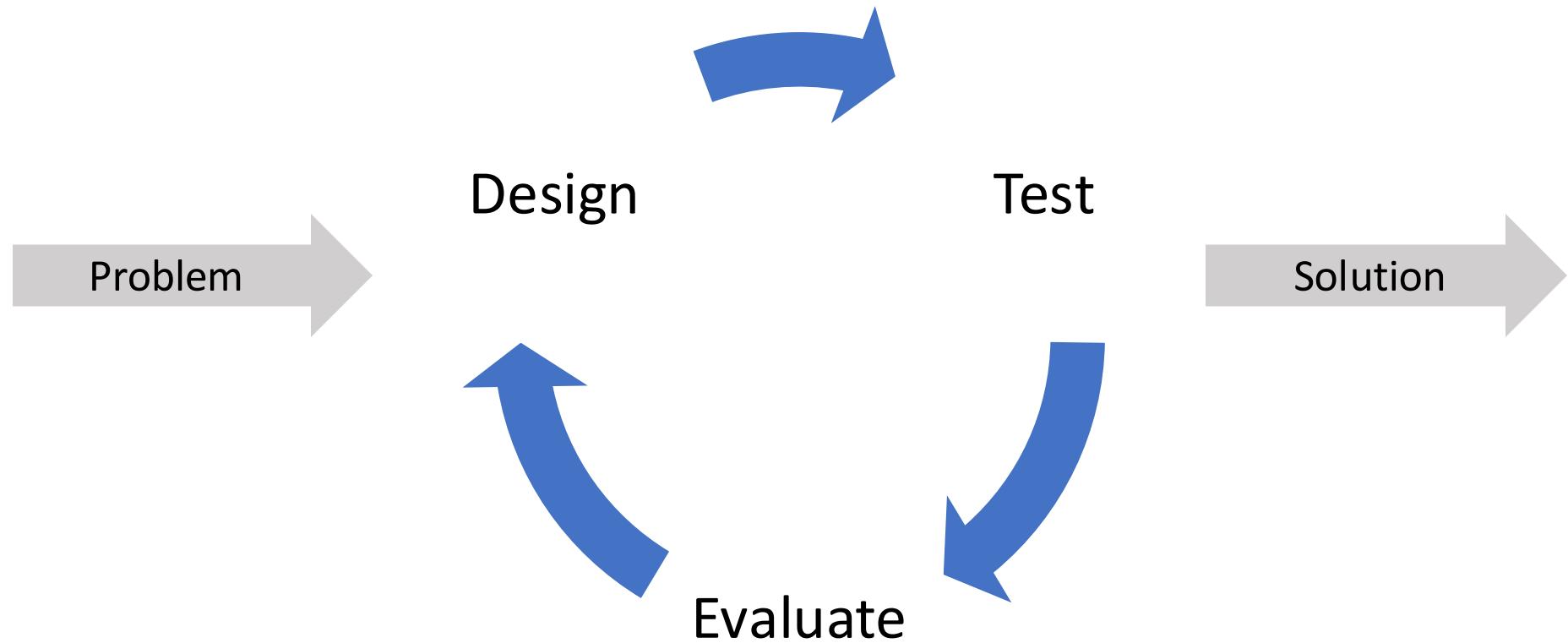




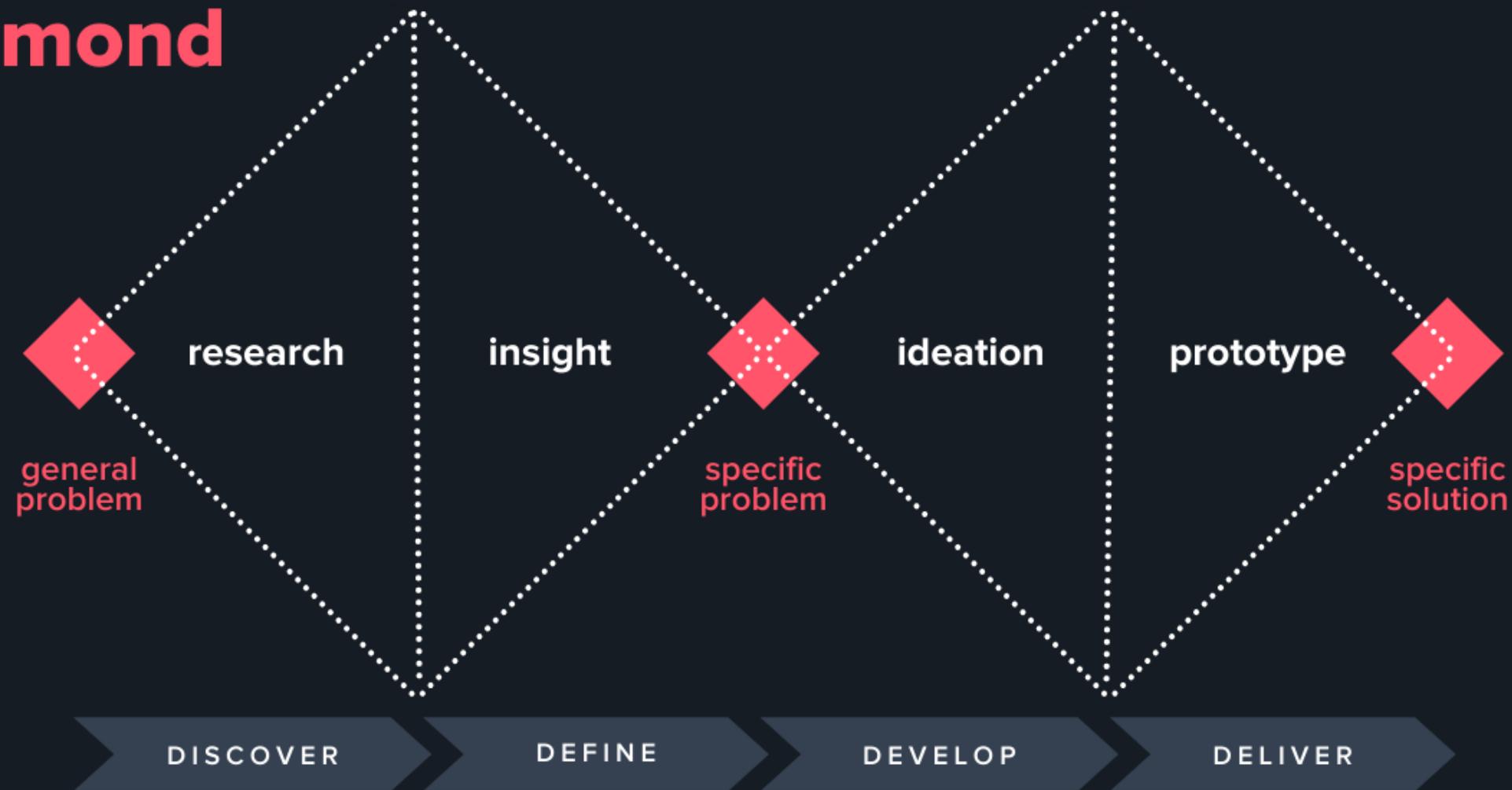
Your job: Design a stove that eliminates incorrect use

Priority: Mapping hotplates and controls

Design is an iterative process



Double Diamond

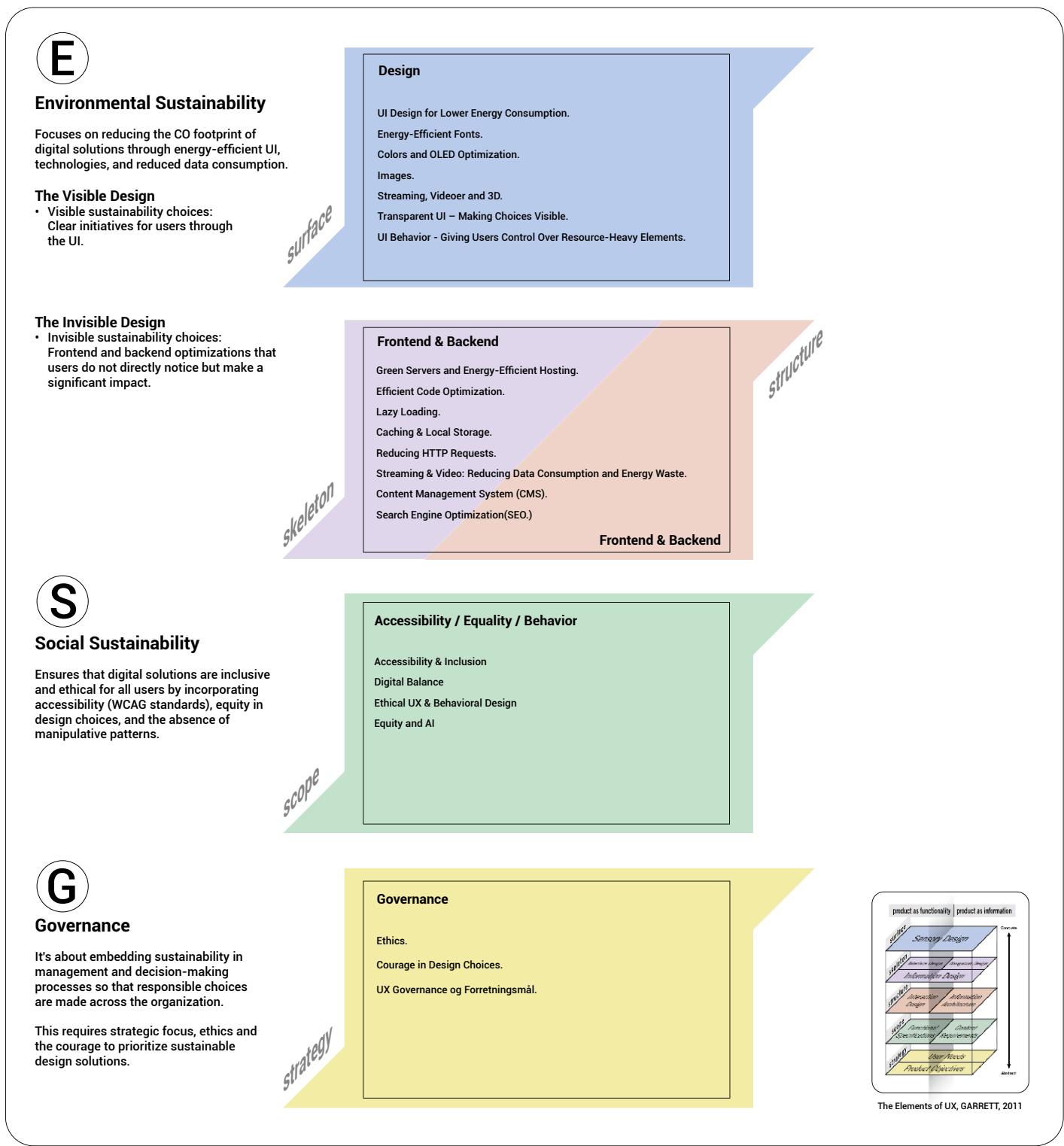


The Sustainable UX Canvas

The Sustainable UX Canvas is a model based on the ESG goals (Environmental, Social, Governance), providing a structured approach to balancing usability, business objectives, and sustainability. By using the model, digital solutions can be optimized to be environmentally responsible, socially inclusive, and strategically anchored in sustainable principles.

The model is built around three key areas:

1. Environmental Sustainability (E - Environment), incl. visible and invisible sustainability choices
2. Social Sustainability (S - Social)
3. Governance (G - Ethics and Leadership)



Environmental Sustainability

The Visible Design (UI)

The visual and interactive elements that users experience, including images, fonts, videos, and UI components.

UI Design for Lower Energy Consumption

An efficient UI design can significantly impact energy consumption and CO₂ emissions. By keeping the design simple and avoiding heavy, unnecessary elements, we can ensure faster loading times, lower power consumption, and a more sustainable user experience.

Recommendations:

- Simplify the UI:
Remove redundant elements and focus on essential content.
- Identify and delete inactive pages:
Use analytics tools (e.g., Google Analytics) to find pages with little or no traffic.
- Digital cleanup:
Regularly remove outdated content that unnecessarily burdens the server.
- Optimize media use:
Choose images instead of videos when it does not compromise the message.

Transparent UI – Making Choices Visible

A transparent UI provides users with clear insight into how their digital choices impact the environment. By displaying CO₂ emissions for different delivery methods in an online store or showing energy consump-

tion for various video quality options in a streaming service, users become more aware and empowered to make sustainable decisions.

Recommendations:

- Make consequences visible:
Present concrete data on CO₂ emissions, so users can see the difference between options.
- Example:
An online store could display at checkout:
 - » Express delivery (1 day) = 2 kg CO₂
 - » Standard delivery (3 days) = 1 kg CO₂

When users directly see the climate impact of their choices, they are more likely to make environmentally friendly decisions.

- Continuous evaluation:
Monitor how users respond to transparency efforts and refine the design accordingly. If few users choose a greener option, highlight the benefits more clearly to encourage sustainable choices.

Energy-Efficient Fonts.

Fonts play a role in energy efficiency. Web fonts must often be downloaded from external servers, increasing data consumption and potentially slowing load times. System fonts, already installed on users' devices, can reduce resource use and improve the user experience.

Recommendations:

- Prioritize system fonts:
If possible, use system fonts (e.g., Arial, Times New Roman) for faster loading and lower data consumption.

- Use only necessary variations:
When using web fonts, limit the number of weight and style variations (e.g., bold, italic) to minimize unnecessary downloads.

Colors and OLED Optimization.

On OLED screens, only active pixels consume power, meaning darker colors use less energy than lighter ones. Implementing Dark Mode or generally using a darker color scheme can conserve battery life and promote a more sustainable design.

Recommendations:

- Enable Dark Mode by default:
Start apps in dark mode, especially on OLED devices, to immediately reduce energy consumption.
- Maintain good contrast:
Ensure color combinations enhance readability and usability—even in dark mode.

Images

Images often constitute a significant part of digital solutions and can heavily impact both the user's device and server resources if not optimized. Choosing efficient file formats, optimizing resolution, and using techniques such as Lazy Loading can reduce load times and overall CO₂ emissions. Additionally, AI-generated images come with an environmental cost that should be factored into decision-making.

Recommendations:

- File formats:
Use WebP or SVG instead of JPEG/PNG for smaller file sizes and faster loading.
- Responsive adaptation:

Serve images in resolutions suited to the user's device to avoid unnecessarily large files.

- Lazy Loading:
Implement Lazy Loading so images load only when they become visible on the screen, saving both data and energy.
- Sharpness and detail:
Consider reducing image detail (e.g., using blurred backgrounds) to decrease file size.
- AI-generated images:
Be mindful of the carbon footprint of AI-generated images—plan their use carefully and optimize them like traditional images.

Streaming, Video and 3D.

Streaming, videos, and 3D elements enhance user experience but also require more data and processing power, increasing energy consumption. Optimizing these elements is crucial for making digital solutions more sustainable for both user devices and server infrastructure.

Recommendations:

- Avoid autoplay: Let users choose when to play a video, reducing unnecessary data use.
- Use efficient video formats:
Opt for AV1 or VP9, which reduce data consumption compared to older formats.
- Shorter and lower-resolution videos:
Keep videos concise and offer lower resolution options to minimize energy impact.
- Optimize 3D elements:
3D graphics require intensive rendering. When possible, use vector graphics or simple animations instead.

UI Behavior: Giving Users Control Over Resource-Heavy Elements

Not all users want automatic sustainability optimizations. Providing them with the ability to control resource-intensive features prevents forcing green solutions upon them and ensures a flexible user experience.

Recommendations:

- Optional media loading:
Allow users to decide whether large images or videos should load, reducing data usage and giving them full control.
- Newsletter opt-out:
Automatically unsubscribe users who do not open emails after multiple attempts, reducing unnecessary server load.
- Sustainable default choices:
Set sustainable options—such as pickup locations instead of home delivery—as the default while allowing users to change them.

The Invisible Design

The Invisible Design (Technical Optimizations): Behind-the-scenes code, server efficiency, and data management that improve performance and reduce energy consumption.

Green Servers and Energy-Efficient Hosting.

Server choices significantly impact a digital solution's sustainability, as data centers consume vast amounts of energy for both operation and cooling. Choosing hosting providers powered by renewable energy can help reduce a website's carbon footprint..

Recommendations:

- Choose green hosting:
Verify your hosting provider via platforms like the Green Web Foundation to ensure renewable energy use.
- Optimize server usage:
Avoid over-provisioning—unused server capacity results in wasted energy.
- Monitor performance: Track load and power consumption to respond quickly to peak demand and maximize efficiency.

Efficient Code Optimization.

Unnecessarily large files increase load times and resource consumption. Compressing HTML, CSS, and JavaScript can reduce file sizes and improve performance. Minification removes redundant code, while bundling CSS and JavaScript files minimizes HTTP requests.

Recommendations:

- Minify files:
Remove unnecessary code and whitespace in HTML, CSS, and JavaScript to reduce file size.
- Bundle files:
Combine multiple CSS or JS files into one to reduce the number of HTTP requests.
- Continuous review:
Regularly audit the codebase to remove inefficiencies and ensure optimal performance.

Lazy Loading

Lazy Loading ensures that images and videos load only when they become visible to the user, saving data and energy.

Recommendations:

- Gradual implementation:
Start with images and expand to videos for maximum efficiency.
- Use placeholder elements:
Prevent layout shifts by reserving space for images before they load.
- Test performance:
Measure load times before and after Lazy Loading to validate improvements.

Caching & Local Storage

Caching stores frequently used data locally, reducing server requests and speeding up load times. Local Storage works similarly but retains data on the user's device for longer, reducing the need for repeated server requests.

Recommendations:

- Enable browser caching:
Configure cache headers (e.g., cache-control, expires) to reuse static assets.
- Store essential data locally:
Use Local Storage for form data or user preferences to minimize server queries.
- Set expiration dates:
Ensure cached and locally stored data updates regularly to prevent outdated information.

Reducing HTTP Requests

Fewer server requests improve site speed and energy efficiency. This can be achieved by bundling files, using CSS sprites for images, and implementing Content Delivery Networks (CDNs).

Recommendations:

- Bundle CSS and JavaScript:
Reduce load time by minimizing file requests.
- Use sprites:
Consolidate icons and small images into a single file to limit server calls.
- Leverage CDNs:
Deliver static content from servers closer to the user to enhance speed and efficiency.

Streaming & Video: Reducing Data Consumption and Energy Waste

Videos and animations are data-intensive and energy-consuming. To minimize their environmental impact, Adaptive Bitrate Streaming can adjust quality based on the user's network conditions, Lazy Loading can prevent unnecessary preloading, and energy-ef-

ficient formats like AV1 and VP9 can significantly reduce file sizes.

Recommendations:

- Adaptive Bitrate Streaming: Automatically adjust video quality based on the user's network conditions.
- Disable autoplay: Let users choose whether to start a video, and remove loop functions where possible.
- Choose energy-efficient formats: Use AV1 or VP9 to reduce file size without significant quality loss.

Content Management System (CMS)

An updated CMS operates more efficiently and requires fewer resources. Removing unnecessary plugins, cleaning up inactive pages and unused content, and implementing caching can help reduce server load.

Recommendations:

- Keep the CMS updated:
New versions are often more efficient and secure.
- Remove unnecessary plugins:
Eliminate outdated or redundant plugins that burden the system.
- Use caching wisely:
Select a caching solution suited to the CMS to avoid unnecessary server requests.

Search Engine Optimization (SEO)

An efficient search function reduces unnecessary browsing and server load. Clear navigation and precise search results help users find information faster, minimizing time spent clicking through pages.

Recommendations:

- Optimize search functionality:
A well-structured search minimizes the need for excessive navigation.
- Clear navigation:
Organize the website so users can quickly locate what they are looking for, reducing unnecessary page views.
- Regular updates:
Ensure that titles, meta descriptions, and links remain relevant to prevent search engines and users from wasting resources on outdated content.

Social Sustainability

Social sustainability in UX design is about creating inclusive, ethical, and responsible digital experiences that respect users' rights, well-being, and choices. This includes ensuring accessibility for all, counteracting deceptive design practices, promoting conscious user behavior, and reducing unnecessary digital consumption.

Accessibility & Inclusion

A socially sustainable digital solution ensures that all users, regardless of abilities or disabilities, can navigate and interact with the system. Accessibility is not just about complying with WCAG standards (Web Content Accessibility Guidelines) but about designing with empathy and understanding for diverse user needs. This includes using high-contrast colors, readable fonts, and navigation options for users with visual or motor impairments. Additionally, software and development tools should support screen readers and alternative input methods.

Recommendations:

- Leverage WCAG actively: Follow WCAG guidelines for contrast, navigation, and language to ensure accessibility for all users.
- Empathetic design: Consider users' diverse needs from the beginning—test with screen readers, alternative input methods, etc.
- Flexible settings: Allow users to adjust font size and color themes so the solution suits individual preferences.

Digital Balance

Many digital platforms are designed to keep users engaged for as long as possible through infinite feeds, autoplay videos, and constant notifications. This can lead to excessive digital consumption, unnecessary data use, and energy waste. Consider alternative feed structures that do not rely on endless scrolling and make it easier for users to clean up old content, reducing server load.

Social Media & Infinite Scroll

Instead of endless scrolling, use a "Load More" button so that data is only loaded when needed. Also, make it easy for users to delete old posts or other irrelevant content.

Streaming & Autoplay

Let users choose streaming quality, implement a "Ask before playing the next episode" feature, and disable autoplay by default. This helps reduce data consumption and CO2 footprint.

Recommendations:

- Limit infinite scrolling: Avoid automatically loading content; instead, offer a "Load More" button.
- Introduce user control: Let users decide when videos should start and in what quality.
- Content cleanup: Make it easy to delete outdated data or inactive posts to reduce unnecessary server load.

Ethical UX & Behavioral Design

UX design influences digital behavior—either posi-

tively or negatively. Ethical design ensures that users have control over their choices without being manipulated or coerced into unwanted actions. Deceptive design tricks users into making undesired choices (e.g., hidden unsubscribe buttons or false urgency), while ethical nudging can be used to guide users toward sustainable choices without limiting their freedom.

Recommendations:

- Avoid deceptive design: Ensure all buttons and options are clearly visible and provide precise information about the consequences of user actions.
- Use nudging responsibly: For example, set more sustainable options (e.g., delivery to a pickup location) as the default while allowing users to choose alternatives freely.
- Make consequences visible: Inform users about environmental impact or time savings so they can make conscious decisions.

Equity and AI

When discussing social sustainability in UX, it's essential to create digital solutions that actively counteract inequality and discrimination. Whether related to gender, ethnicity, language background, or physical abilities, design should provide equal opportunities for accessing and using technology. Modern AI solutions play a significant role in many digital products, but without conscious effort, algorithmic bias can reinforce existing inequalities.

AI Fairness – Making Artificial Intelligence Accessible and Fair

AI can significantly enhance user experiences, but if datasets and algorithms reflect biases or only represent a narrow group of users, some people may be excluded. To promote fairness, AI-driven functions must be intuitive for all users, regardless of their technological literacy, and continuously tested for discriminatory patterns. Additionally, development teams should reflect a diverse user base so that AI systems are trained on varied datasets.

Gender Neutrality and Equality in UX

Gender bias can be embedded in language, visual elements, and the underlying structure of a digital product. Offering only “male” or “female” options in forms excludes users who do not identify with these categories. A more inclusive design approach includes gender-neutral profiles, clear communication about pronoun choices, and visual materials that equally represent different genders and life situations.

Cultural Equity – Understanding User Context

Digital solutions are used across different countries and cultures, and design choices can have unintended consequences. Color schemes, symbols, and language may be offensive or confusing in one culture while being perfectly acceptable in another. By testing usability globally and involving cultural experts or local users during development, designers can minimize the risk of excluding or offending certain groups.

Inclusion – Creating Equal Opportunities for All Users

Inclusive design also means considering technical and physical barriers. Not everyone has access to high-speed internet, and some users rely on older de-

vices. Additionally, some users with disabilities need screen readers, alternative input methods, or specific color schemes. A truly inclusive solution supports a wide range of network speeds, hardware capabilities, and accessibility needs.

Recommendations:

- Test for AI bias:
Review datasets and algorithms to identify potential discriminatory patterns. Involve external experts or representatives from minority groups in the testing phase.
- Make AI functions understandable:
Design AI-driven features so they can be used by all, including those with low technical literacy. Avoid complex explanations and ensure transparency in results.
- Offer gender-neutral options:
Provide alternatives beyond “male”/“female,” or allow users to opt out of specifying gender. Ensure labels and messages are inclusive.
- Use diverse language and imagery:
Ensure illustrations, icons, and examples represent a broad cross-section of the population. Similarly, avoid stereotypes in language.
- Cultural adaptation:
Test the product across different countries and languages. Be aware that symbols or colors that are harmless in one context may be offensive in another.
- Inclusive technology:
Ensure your solution works on slow networks, older devices, and with assistive tools (e.g., screen readers). This guarantees a usable experience for all users, regardless of their technological situation.

Governance

Organizational Responsibility for Sustainable UX Choices

A holistic sustainability strategy must include both environmental and social sustainability. This means creating digital products that are energy-efficient, ethical, and inclusive so that all users—regardless of abilities, background, or social conditions—can have a fair and positive experience. To succeed, clear guidelines and leadership-driven sustainability initiatives are required so that UX designers are not left alone with the responsibility.

Ethics

Ethics play a central role in governance. Without formal guidelines for both environmental and social aspects of sustainable UX design, solutions may be inconsistent or arbitrary. A project may be strong in visual and technical energy efficiency but fail in areas such as accessibility or data protection.

Recommendations:

- Define shared criteria:
Develop company-specific guidelines that include both environmental and social sustainability metrics for UX.
- Transparency and ethics:
Share ethical guidelines internally so that everyone—from developers to top management—understands and follows principles of social inclusion, data protection, and environmental responsibility.

Courage in Design Choices

UX designers often face a dilemma between creating an engaging experience and maintaining sustainability, both environmentally and socially. If leadership primarily focuses on user engagement or conversions, efforts like reducing energy and data consumption or adopting a more inclusive design approach may be deprioritized.

Recommendations:

- Involve leadership:
Ensure top management is engaged in decision-making from the beginning so that green and social considerations are strategically embedded in company objectives.
- Establish decision-making authority:
Give UX designers the right and resources to propose and implement both technical and social improvements—such as making dark mode the default setting or ensuring compliance with accessibility standards.

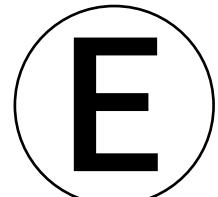
UX Governance og Forretningsmål

Without UX governance, a company may have “green” initiatives or social focus areas in other departments while still launching a digital product that is neither inclusive nor resource-efficient. Therefore, leadership should integrate UX into both the company’s sustainability strategy and its overall business objectives..

Recommendations:

- Anchor UX in the strategy: Ensure that UX efforts for both environmental and social sustainability align with product development, marketing, and financial planning.
- Assess holistic value: Sustainable and socially responsible design choices can reduce envi-

ronmental impact, increase accessibility, and improve the company’s reputation, ultimately strengthening the bottom line.

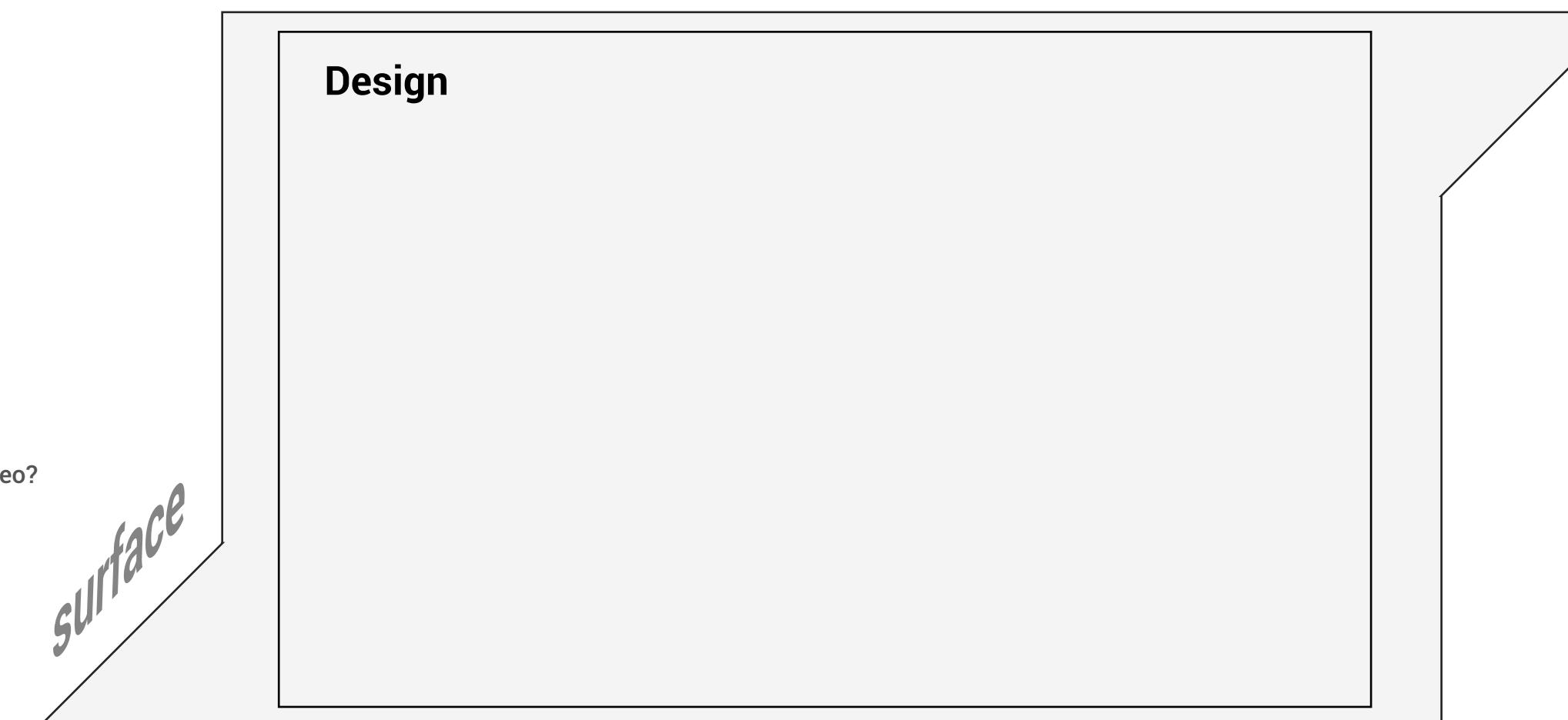


Environmental sustainability

The Visible UI Design

Design decisions the user sees and interacts with:

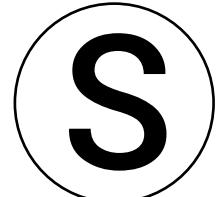
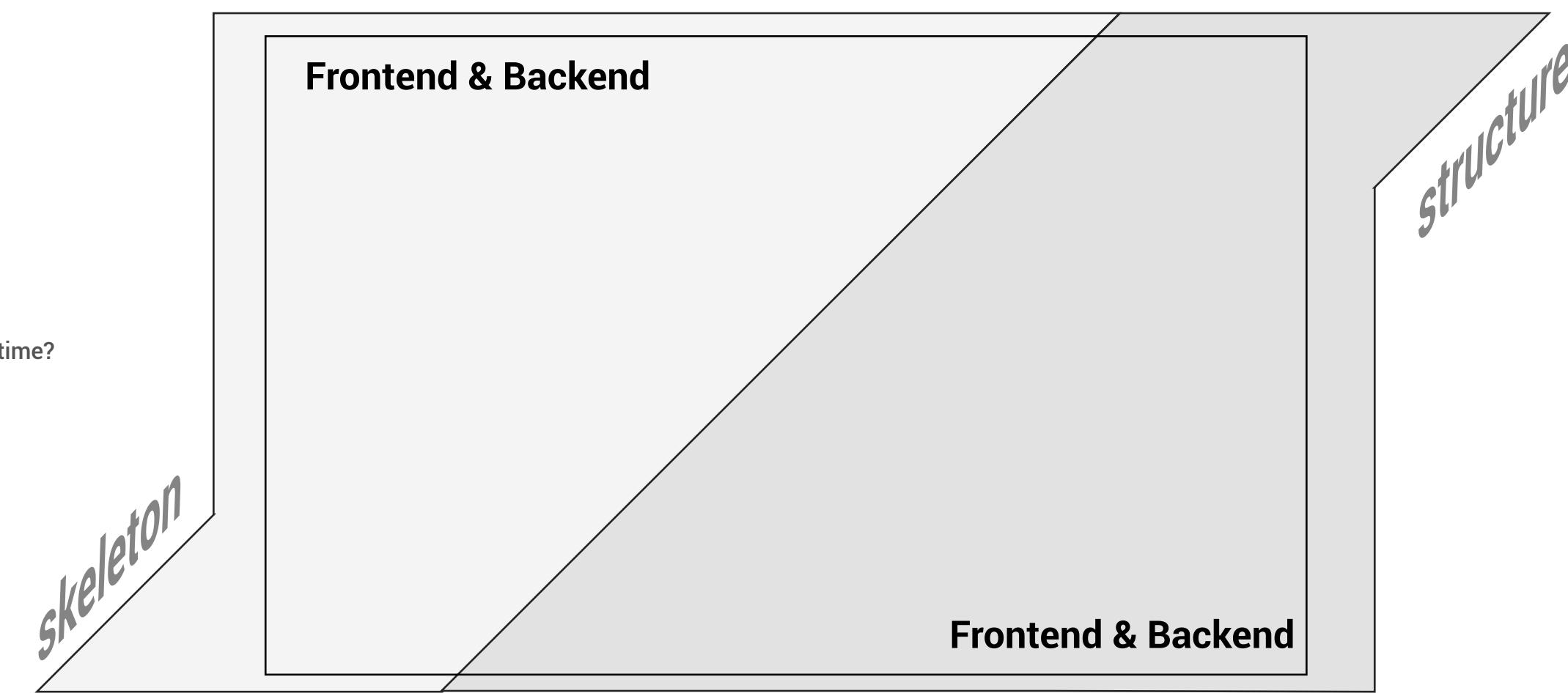
- How do we show that the solution is sustainable?
- Can we simplify or lighten the visual design?
- Do we give users control over heavy elements like images or video?
- Do our visual choices support energy efficiency?
- Are we guiding users toward more sustainable decisions?



The Invisible Design

Technical decisions behind the user experience:

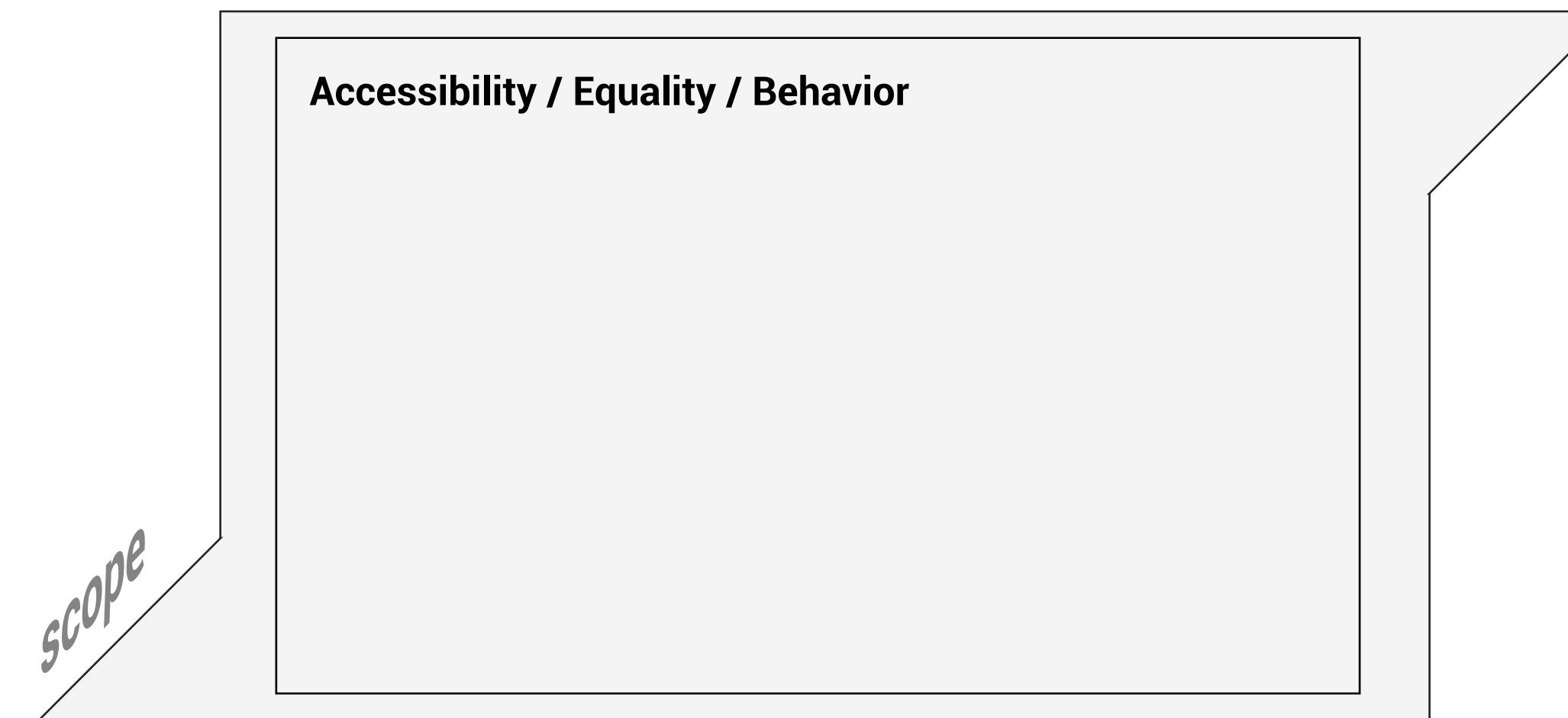
- What are we doing to reduce energy and data consumption?
- Is our solution fast and lightweight to load?
- Is our code and data management optimized for sustainability?
- Have we chosen sustainable servers and technologies?
- Are we caching effectively to reduce data transfers and loading time?



Social Sustainability

Reflections on inclusion, ethics, and behavior:

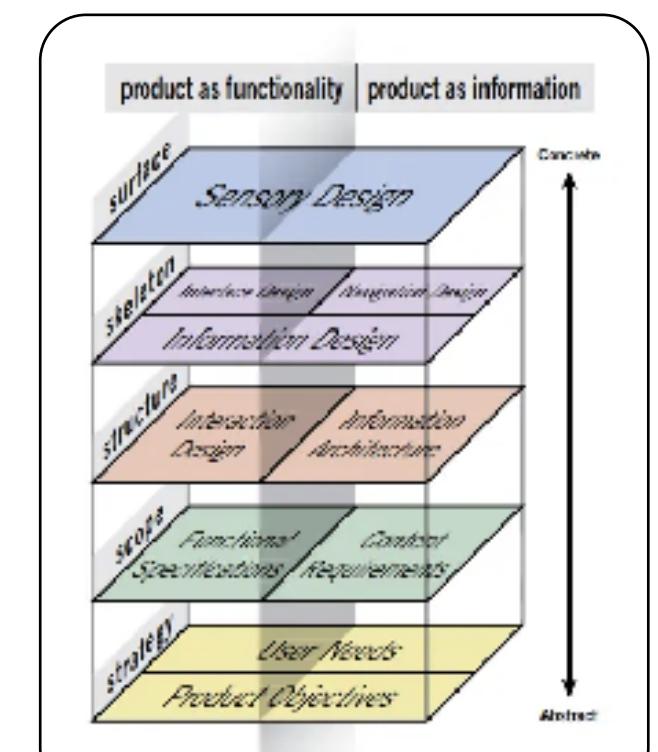
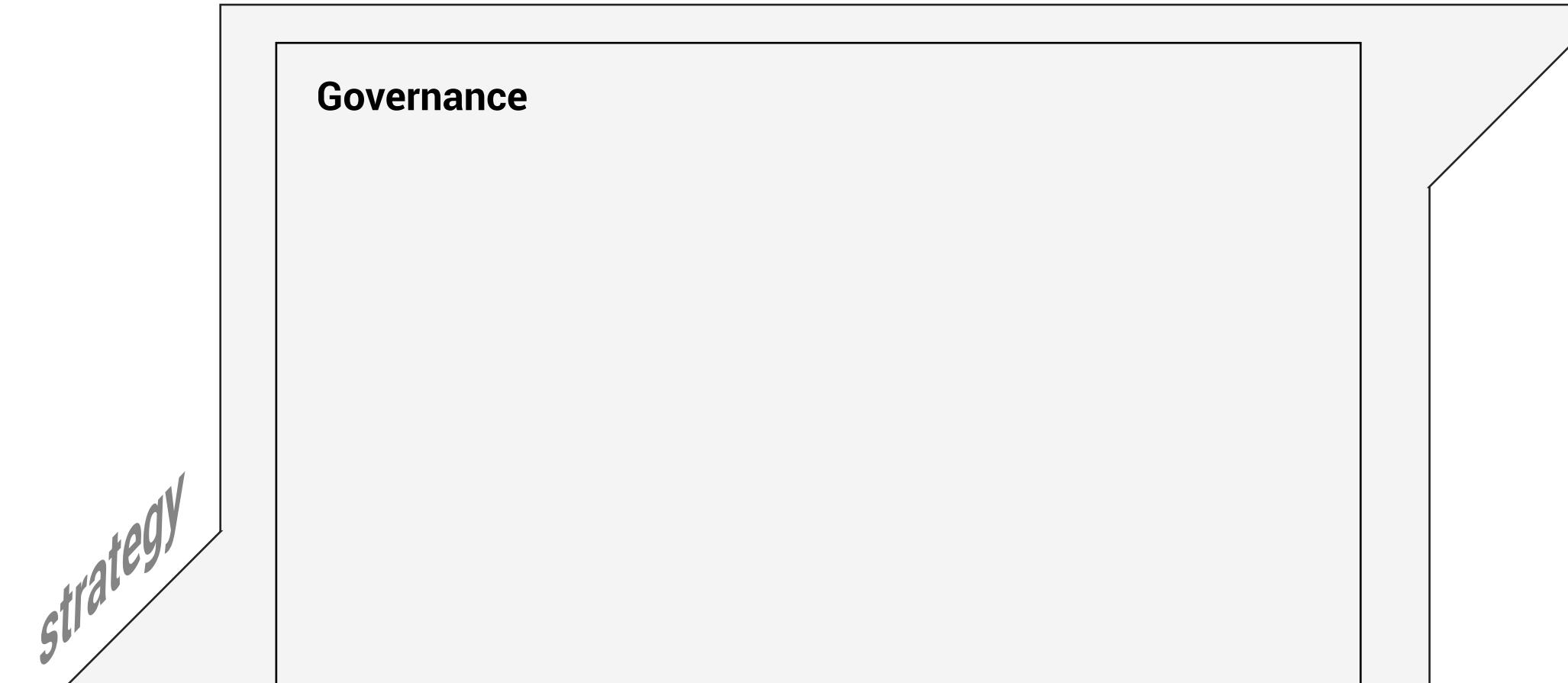
- Is our design inclusive and accessible to all?
- Do we respect the user's time and choices?
- Are we avoiding dark patterns?
- Do we guide users toward conscious decisions?
- Are all users fairly represented?



Governance

Ethical principles, processes, and strategic anchoring:

- Is there a strategy or process for sustainable UX?
- Are designers supported in making responsible choices?
- Is sustainability embedded throughout the digital solution?
- Do we follow ethical principles—even when it's challenging?



The Elements of UX, GARRETT, 2011

Case - Part 1: CO₂ & Environmental Sustainability (*The Visible and Invisible Impact*)

In the first part, you will design and develop a one-page HTML/CSS campaign site that takes their assigned non-human persona into account.

The site should reflect sustainable digital design principles by considering both visible and invisible environmental impacts.

Requirements:

- CO₂ Optimization: Minimize energy consumption through optimized code, compressed assets, and efficient design choices.
- The Visible Impact: Reduce heavy visuals and resource-intensive elements while maintaining strong visual communication.
- The Invisible Impact: Implement technical optimizations such as lazy loading, caching, and reduced HTTP requests.
- Non-Human Persona Integration: The campaign should communicate the needs and challenges of the assigned persona in a way that engages users and promotes sustainable choices.

Part 2: Sustainability (Social, Ethics, Accessibility)

Focus: Ethics, Accessibility, and Inclusion

1. Define/Find a New Persona

Choose a relevant persona for your campaign site. This can be a traditional user, but you are encouraged to reflect on social sustainability by selecting a persona with specific accessibility, inclusion, or equity-related needs.

2. Test Your Accessibility

- Evaluate your landing page using these tools:
- Document your testing with screenshots and notes:
 - What did you discover?
 - What did you change based on the results?

3. Responsive & Inclusive Design

Update your landing page to ensure it is responsive and usable for all – across devices, screen sizes, and user contexts.

You must also extend your page with a NEW form designed to collect user data ethically and accessibly.

Your page should now:

- Be responsive across mobile, tablet, and desktop
- Follow thumb ergonomics for mobile use
- Use accessible structure (headings, alt text, semantic HTML)
- Avoid visual clutter
- Use clear, meaningful link texts
- Include a form with:
- Accessible labels and inputs
- Logical tab order
- Easy error handling and feedback

3. Deliverables

Complete or update the Sustainable UX Canvas with a specific focus on:

Part 3: Deceptive patterns – You are the UX devil ;)

The world is burning — literally. The company is out of money, users are disappearing, and management is panicking.

Your new mission:

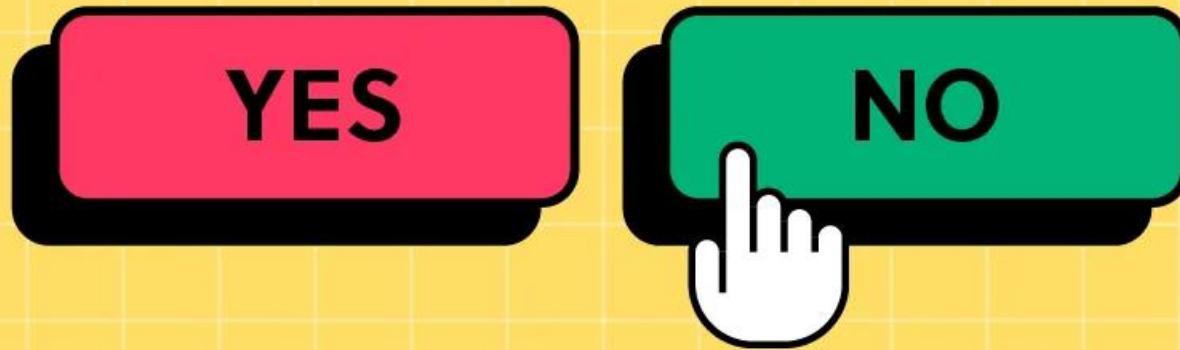
Twist your ethical, sustainable campaign into a manipulative dark UX experience.

You must:

- Use deceptive patterns to generate more signups, data, or engagement.
- Exploit fear and urgency: “Without your help, we all die!”
- Keep the surface visually green and sustainable — but design with underlying pressure and manipulation.
- Balance persuasive design with deceptive tactics.

Each group must:

- Use examples from at least 2 different deceptive pattern groupings (e.g. Manipulated Choices + Artificial Pressure)
- Show how you would implement them in your existing campaign site (still HTML/CSS).



Dark Patterns in UX Design

Understanding deceptive design in UX
Jeppe Stockmar

What Are Deceptive Patterns/Design ?

A deceptive pattern is a design pattern that prompts users to take an action that benefits the company employing the pattern by deceiving, misdirecting, shaming, or obstructing the user's ability to make another (less profitable) choice.

What Are Deceptive Patterns/Design ?

- Deceptive design are techniques used to trick users into doing something they didn't intend to do.

Goal:

- Prioritize business goals (e.g. clicks, purchases, sign-ups) over user needs.

Why Should UX Designers Care?

- Untrustworthy - Loosing user trust
- Can lead to legal issues (e.g. GDPR violations)
- Contradicts ethical design principles
- Damages long-term brand loyalty

Common Types of Dark Patterns

1. Disrupted Decision-Making

Patterns that confuse, overwhelm, or subtly push users into decisions they might not otherwise choose.

- **Bait and Switch** – Promises one outcome, delivers another.
- **Trick Questions** – Confusing phrasing to elicit unintended responses.
- **Trick Wording** – Uses misleading or double-negative phrasing.
- **Preselected Options** – Options chosen by default to benefit the business.
- **Confirmshaming** – Emotionally guilting users into agreement.

2. Difficult Departures

Tactics that make it hard for users to leave, cancel, or undo a decision — often through friction or complexity.

- **Roach Motel** (Hard to Cancel) – Easy to get in, hard to get out.
- **Obstruction** – Adds deliberate barriers to desirable user actions.
- **Hidden Subscription** – Sign-ups that conceal ongoing charges.
- **Forced Continuity** – Free trials that silently become paid without notice.

3. Manipulated Perception

Designs that distort how things appear visually or contextually, making options unclear or deceptive.

- **Disguised Ads** – Ads that look like navigation or content.
- **Misdirection / Visual Interference** – Layouts that hide primary actions or emphasize secondary ones.
- **Price Comparison Prevention** – Obscures real value or prevents direct comparisons.

4. Exploiting Consent

Patterns that undermine user autonomy by manipulating how and when consent is given.

- **Privacy Zuckering** – Tricks users into oversharing personal info.
- **Cookie Consent Manipulation** – Designs that push “Accept All” or bury rejection options.
- **Forced Action** – Requires users to take unrelated steps (e.g., sign up or share data) to proceed.

5. Artificial Influence

Methods that create a false sense of urgency, scarcity, or popularity — pushing impulsive decisions.

- **Fake Scarcity** – “Only 1 left!” even if it’s not true.
- **Fake Social Proof** – Simulated reviews or notifications of purchases.
- **Nagging** – Persistent, interruptive prompts to drive action.

6. Concealed Costs & Add-ons

Patterns that delay or hide important cost-related

- **Hidden Costs** – Charges revealed at the final step.
- **Sneak into Basket** – Extra items or services added without clear consent.

Group Exercise:

Deceptive Patterns in UX

You'll be working in 6 groups — each group will receive a category of deceptive design patterns based on real-world UX examples.

- ☒ You have 45 minutes to:
 1. Review your assigned grouping of deceptive patterns.
 2. Come up with 2–3 examples of how these patterns might appear in digital products (websites, apps, services, etc.).
 3. Be ready to briefly present your examples to the rest of the class.

We'll collect all the examples together into a shared overview and reflect on how these patterns impact user trust and experience.

Insert your slides here: [Presentation.pptx](#)

Focus on everyday experiences: shopping, subscriptions, sign-ups, cookie consents, etc. Keep it realistic — and feel free to be a little creative!

Sources & Further Reading

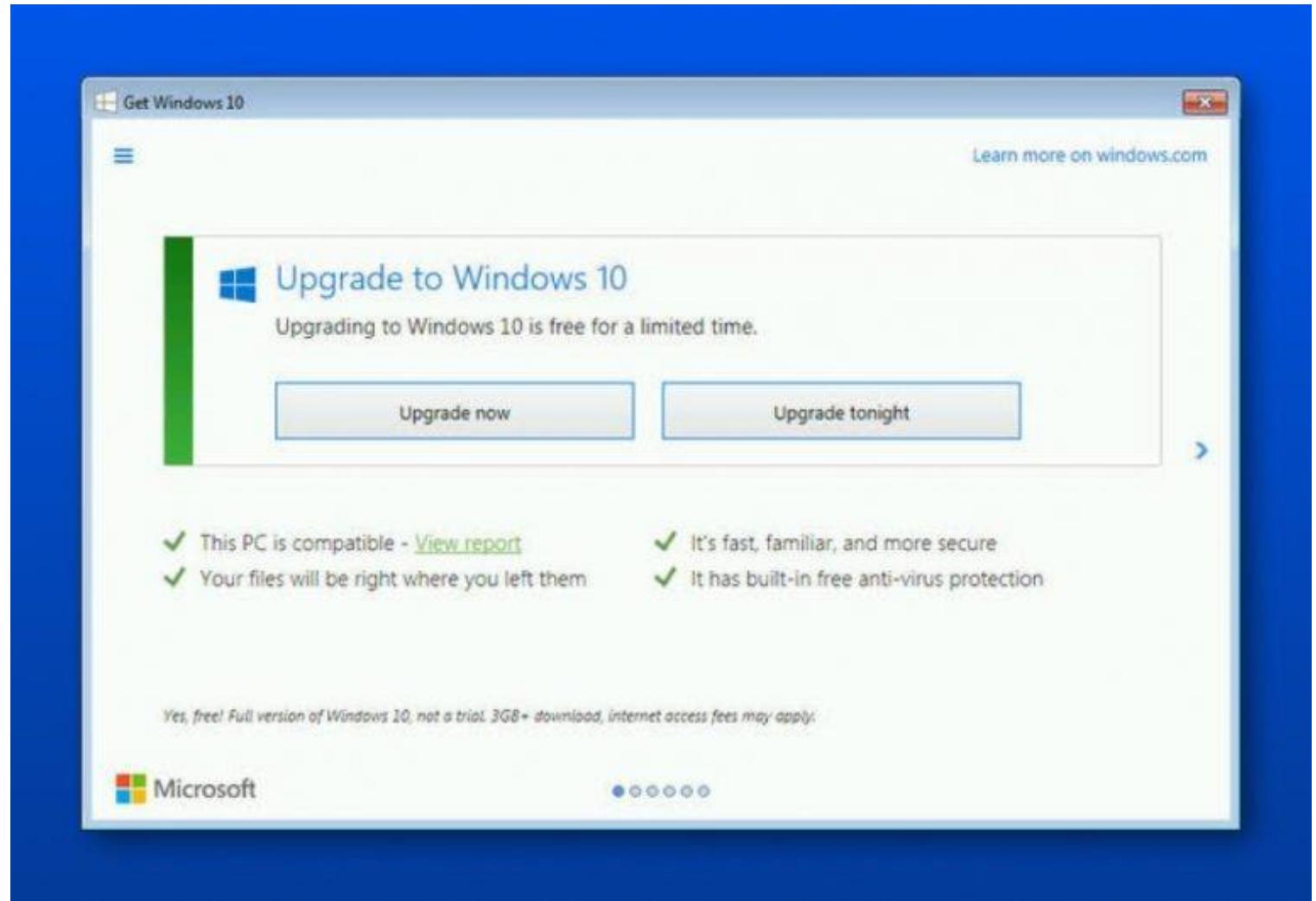
- **CareerFoundry article:**
<https://careerfoundry.com/en/blog/ux-design/dark-patterns-ux/>
- **Dark Patterns in UX Design — Which Ones Are the Most Deceptive?**
<https://www.uxpin.com/studio/blog/dark-patterns-in-ux-design/>
- **Bonus recommended source:**
<https://www.deceptive.design/>

Deceptive Patterns Collection

Made by the Students

1. Disrupted Decision-Making / Bait and Switch

2016



1. Disrupted Decision-Making / Bait and Switch

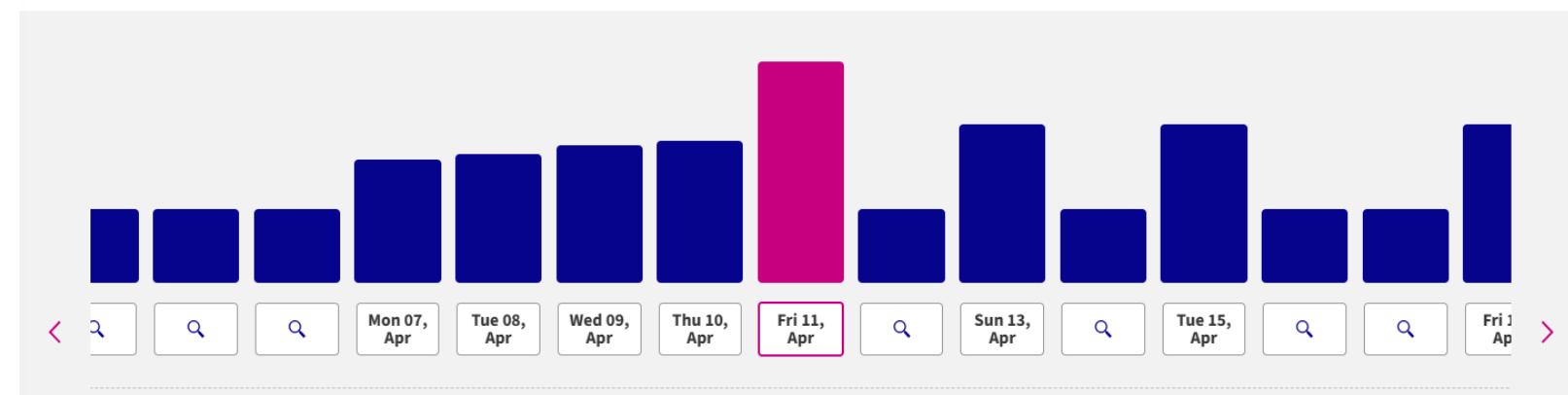
✈ Copenhagen CPH → Bucharest OTP

[HIDE PRICE CHART ▲](#)

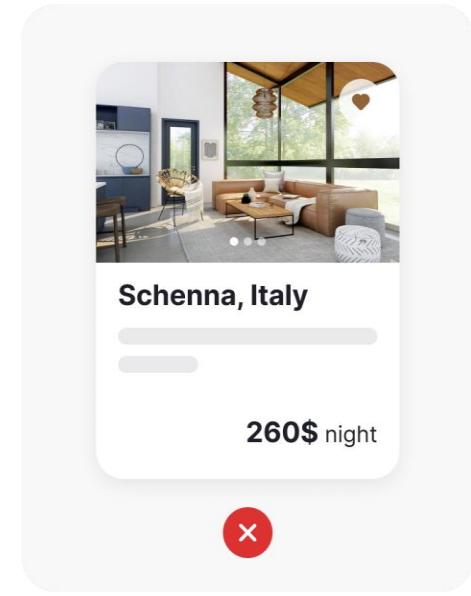
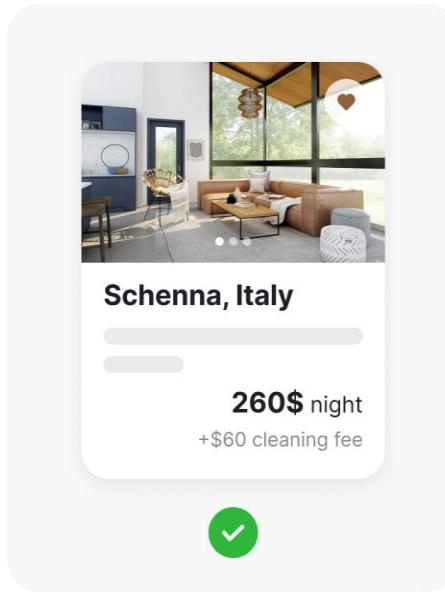
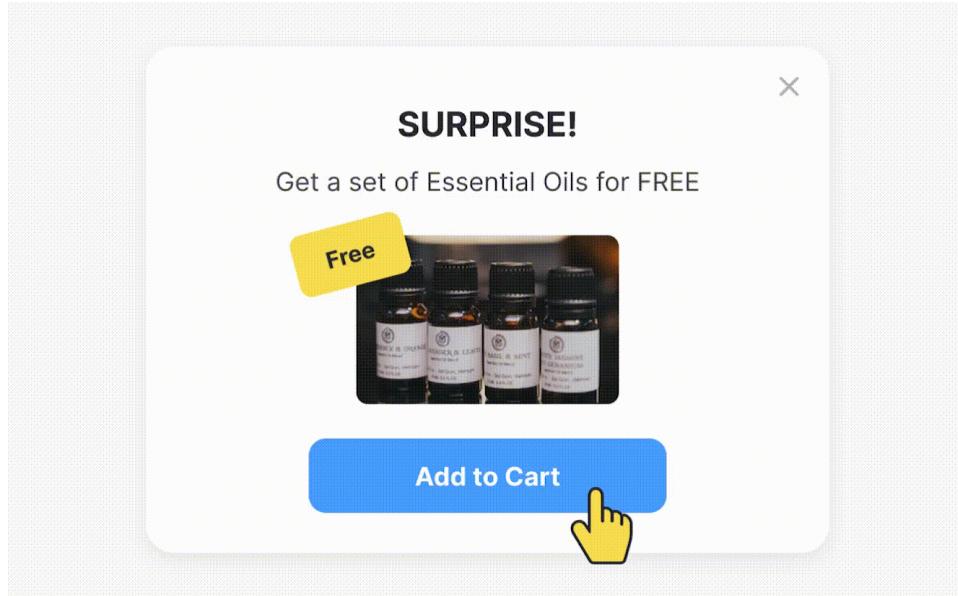


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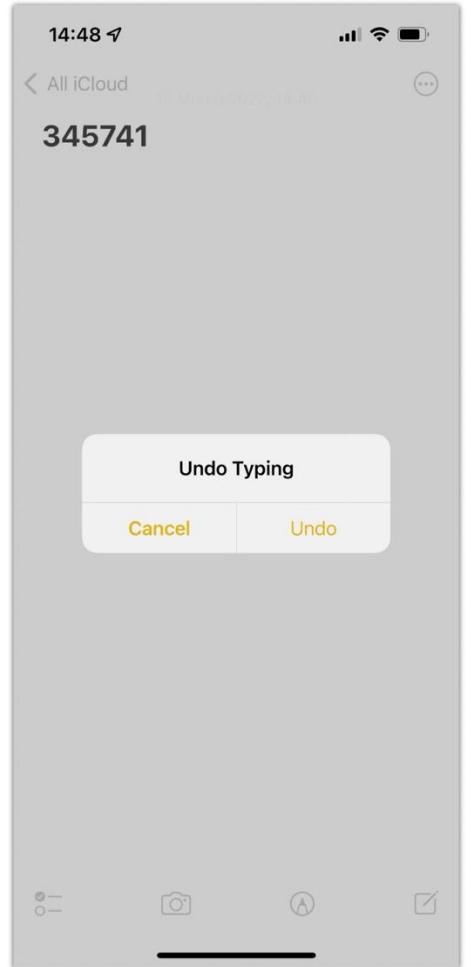
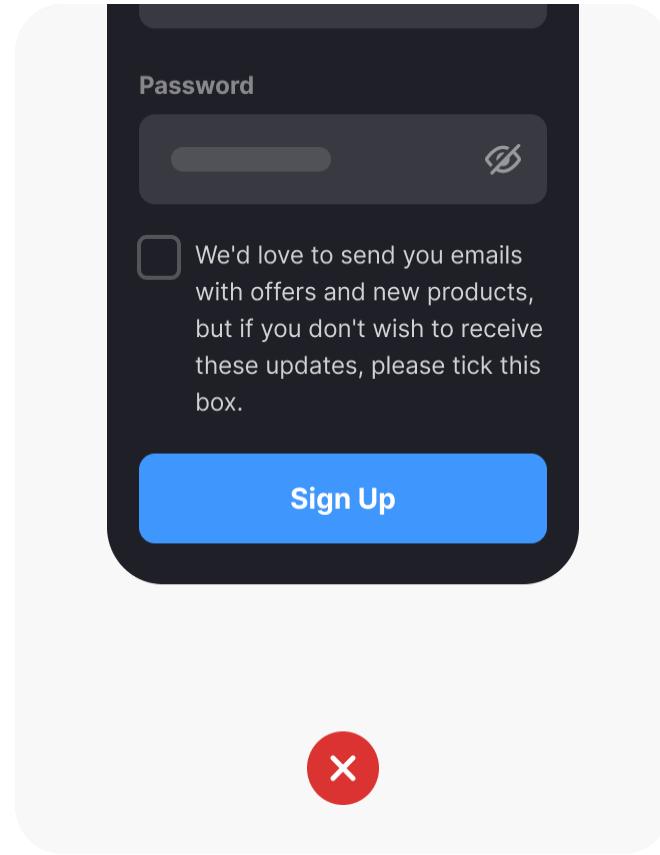
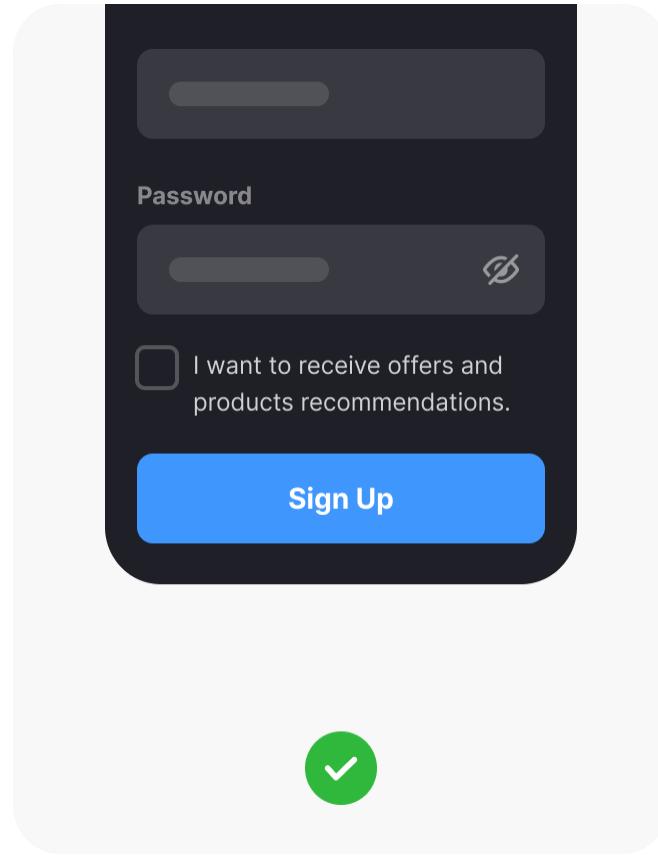
[HIDE PRICE CHART ▲](#)



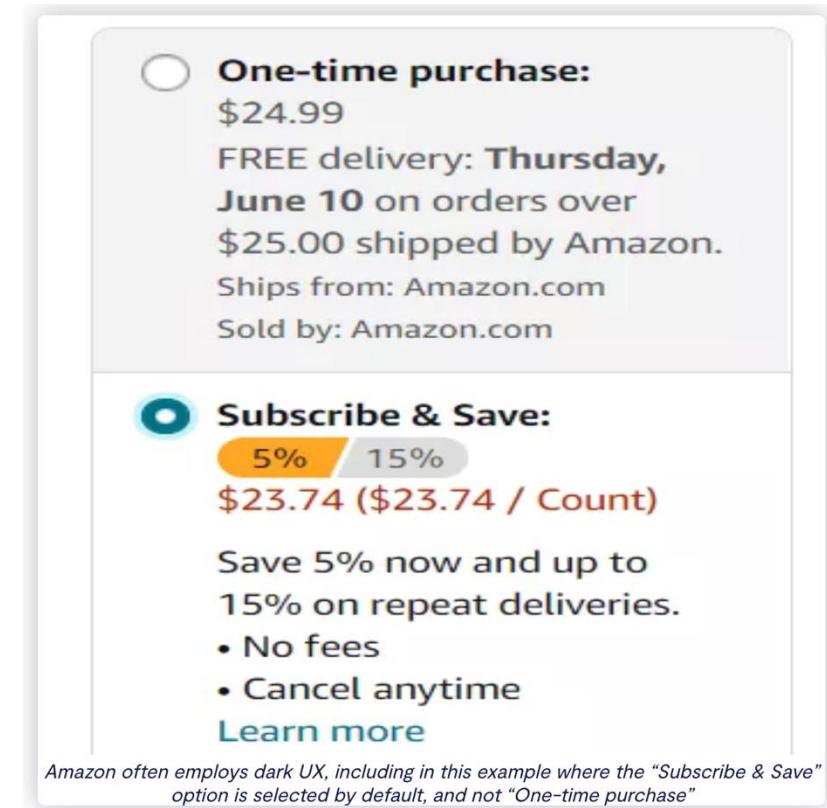
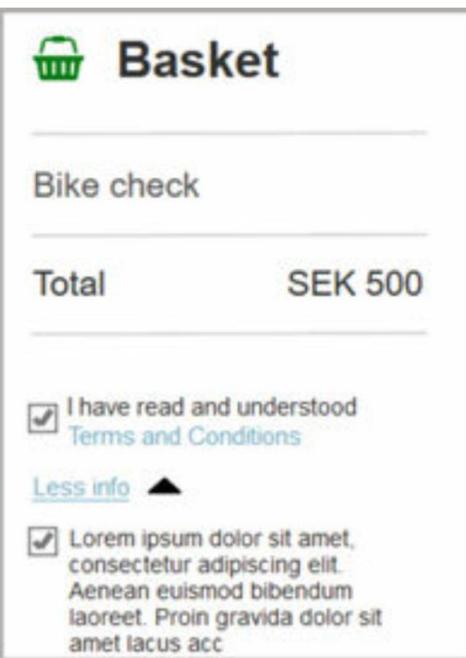
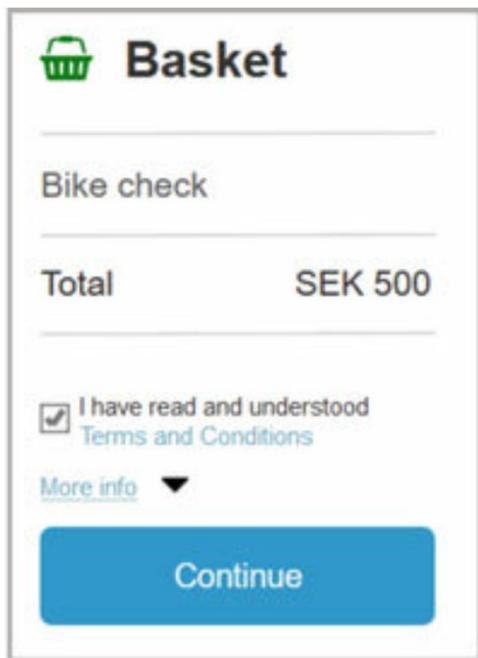
1. Disrupted Decision-Making / Bait and Switch



1. Disrupted Decision-Making / Trick Questions

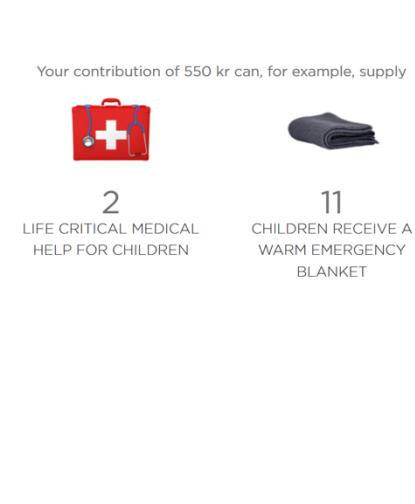
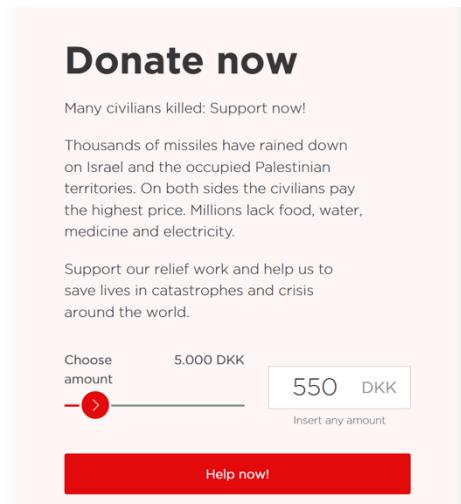


1. Disrupted Decision-Making / Preselected Options

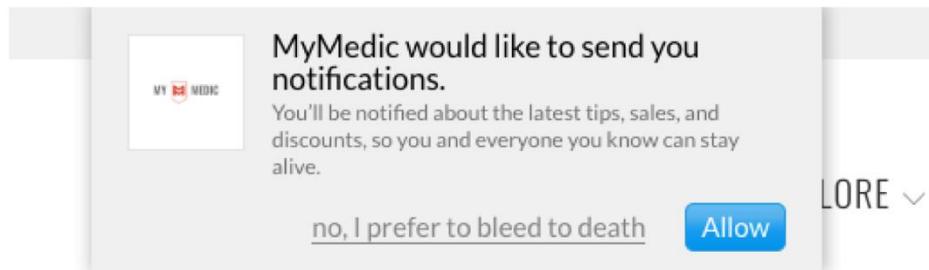


1. Disrupted Decision-Making / Confirmshaming

Emotionally guilting users into agreement.



- "**Many civilians killed: Support now!"**
- "**Help now!"**



- "**No, I prefer to bleed to death**"

2. Difficult Departures

Account

UPGRADE TO PRO

Easy to get in,
hard to get out

Account

UPGRADE TO PRO

UPGRADE TO BUSINESS

Advanced ^

Delete Account

Access past Pro membership invoices

2. Difficult Departures

Adds deliberate
barriers to desirable
user actions.

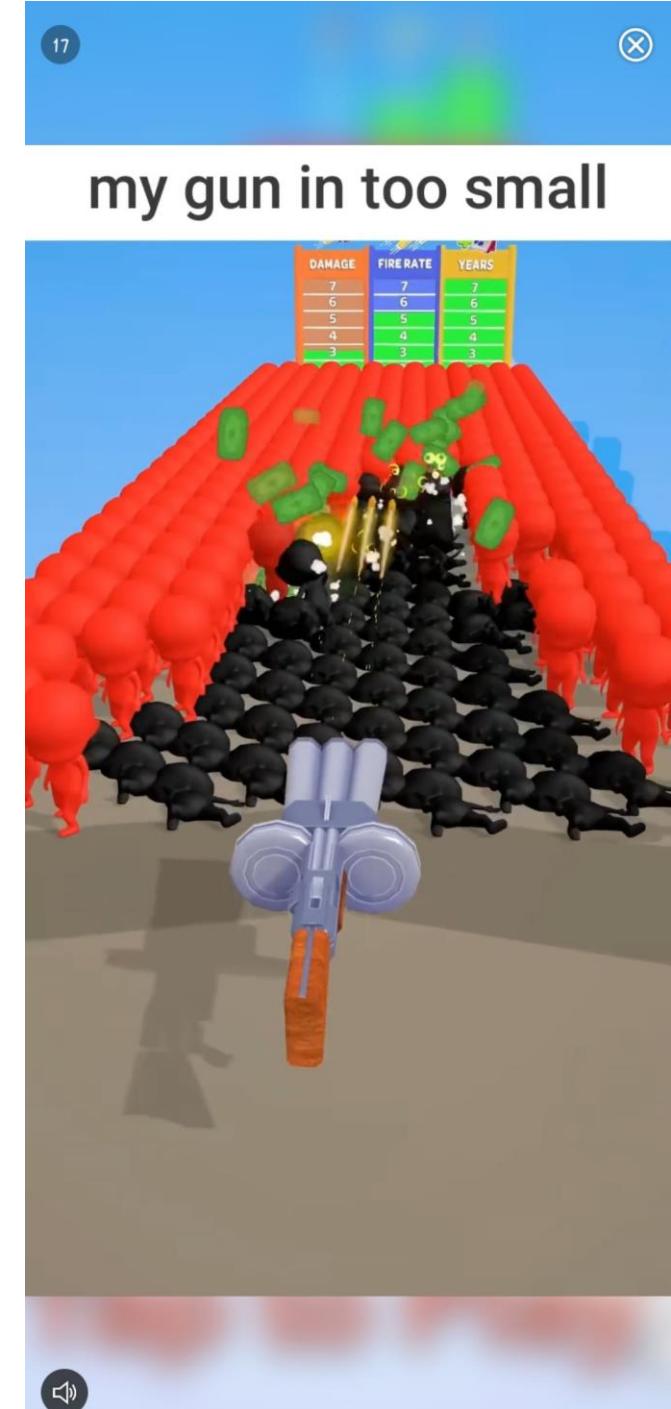
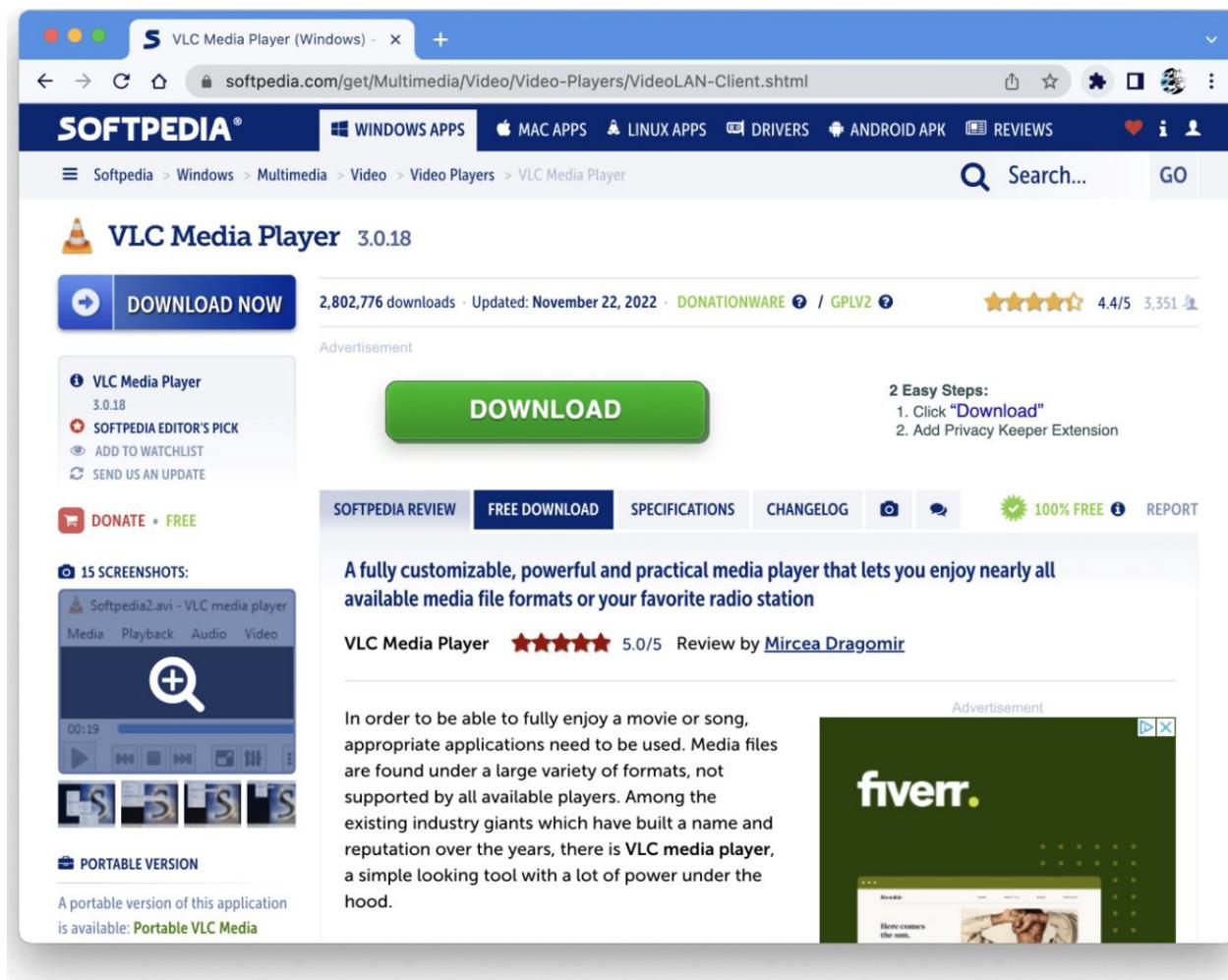
2. Difficult Departures

- **Hidden Subscription: Concealed Ongoing Charges**
- **Example: Mobile App with In-App Purchases**
- A meditation app offers a "free trial" but subtly enrolls users into an auto-renewing subscription.
- The sign-up page highlights "Try for free!" but the small print (or a lightly colored disclaimer) states that after 7 days, the user will be charged \$49.99 annually.
- The cancellation process is buried deep inside account settings, requiring multiple clicks and confirmation prompts.

Forced Continuity: Free Trials That Auto-Convert

- **Example: Streaming Services**
- A **video streaming service** offers a **30-day free trial** but requires users to enter **credit card details upfront**.
- There's **no clear reminder** before the trial ends, and the subscription auto-renews at **\$14.99 per month**.
- Canceling the subscription involves **navigating through multiple steps**, including a survey asking "**Why do you want to leave?**" before showing a misleading "pause" option instead of cancellation.

3. Disguised Adds



3. Misdirection

Up to 50% off + 15% EXTRA

Get ready for sunny days with more savings

Code* HELLOSPRING

Save now →

Ends in **00 Days 10 Hrs 27 Min 35 Sec**

Explore more: [Tøj](#) [Sko](#) [Accessories](#) [Streetwear](#) [Designermode](#) [Sport](#) [Beauty](#) [Shop alle](#)

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If you select "**Accept all**", you accept this and agree that we share this information with third parties, such as our marketing partners. This may mean that your data is also processed in the USA and China. If you select "**Only essential**" we will use only the essential cookies and you will not receive any personalised ads. Select "**Set preferences**" for further details and to manage your options. You can adjust your preferences at any time. For more information, please read our [privacy notice](#) and [legal notice](#).

[Only essential](#)

[Set preferences](#)

[Accept all](#)

Think Twice Before You Cancel!

Remember What You're Leaving Behind...

- Lose Access To Fresh, Seasonal Ingredients
- Miss Out On Chef-Crafted Recipes
- Wave Goodbye To Meal Planning Made Easy

Yes, I want to miss out on these benefits.

Nevermind

Cancel Subscription

3. Price Comparison Prevention

The screenshot shows the AEGEAN flight search interface. At the top, there's a navigation bar with icons for flights, users, cart, reviews, and more, and a total price of €0.00. A modal window for 'Miles+Bonus' is open, prompting the user to log in to their account to redeem miles and pay less. Below the modal, the search results for a flight from Copenhagen (CPH) to Athens (ATH) are displayed. The flight details are: Departure at 11:00 on Sat, 5 Jul; Arrival at 15:15 on Tue, 8 Jul; Duration: 3h 15min; Nonstop. The fare is Economy from €334.67 or Business from €583.67. Both options are operated by Aegean Airlines. Below this, another flight option is shown: Departure at 08:05 on Sun, 6 Jul; Arrival at 12:25 on Wed, 9 Jul; Duration: 4h 20min; Nonstop. The fare is Economy from €669.34. At the bottom of the page, there's a promotional banner for 'Upgrade to Flex' with a cost of 33 EUR per passenger.

A comparison chart showing the pricing and features of Claude models across four tiers: Free, Pro, Team, and Enterprise.

Tier	Price	For	Features
Free	\$0	For individuals to get started	<ul style="list-style-type: none">Talk to Claude on the web, iOS, and AndroidAsk about images and docsAccess to one of our latest models
Pro	\$18	For Claude power users	<ul style="list-style-type: none">Everything in Free, plus:More usage than FreeOrganize documents and chats with ProjectsAccess additional Claude modelsUse Claude 3.7 Sonnet with extended thinking modeEarly access to new features
Team	\$25	For fast-growing teams	<ul style="list-style-type: none">Everything in Pro, plus:More usage than ProCentral billing and administrationEarly access to collaboration features
Enterprise		For businesses operating at scale	<ul style="list-style-type: none">Everything in Team, plus:More usage than TeamExpanded context windowSingle sign-on (SSO) and domain captureRole-based access with fine grained permissioningSystem for Cross-domain Identity Management (SCIM)Audit logs

Notes: Prices shown do not include applicable tax. For person / month with annual subscription discount; \$216 billed up front. \$20 if billed monthly. Minimum 5 members.

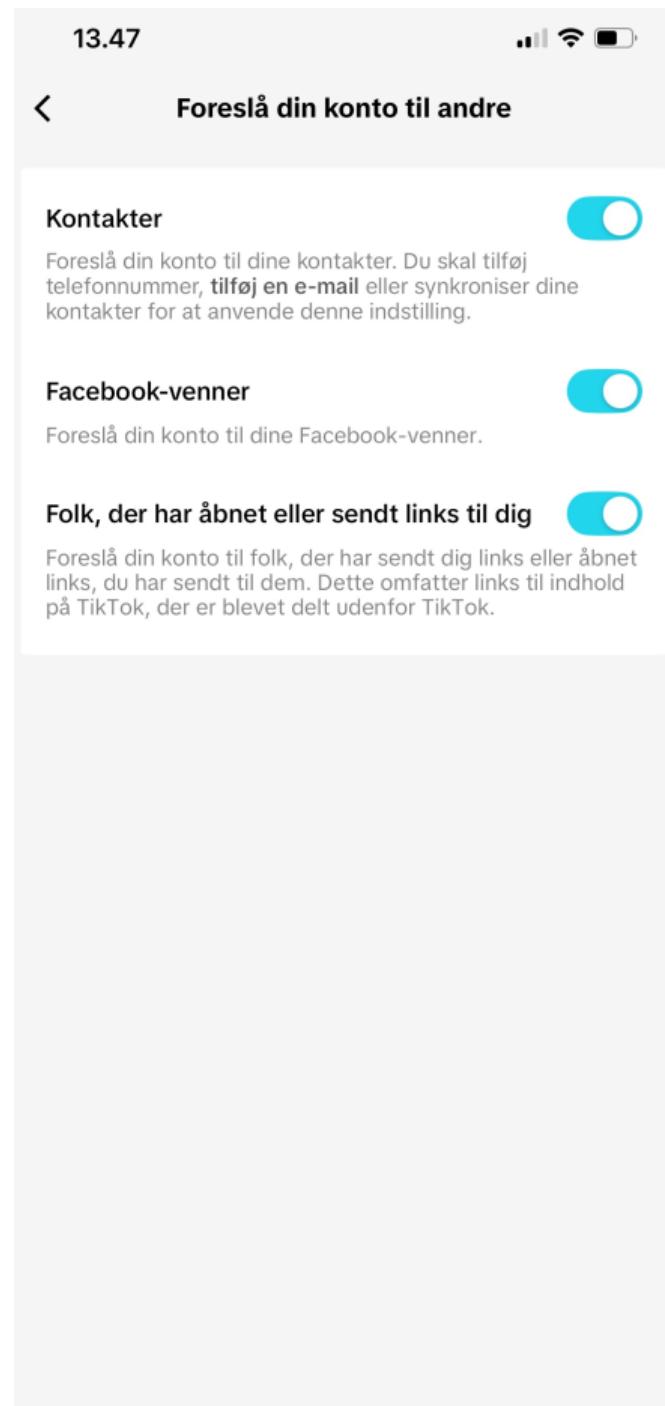
Invoices

Date	Total	Status	Actions
Mar 25, 2025	€22.50	Paid	<button>View</button>

4. Exploiting Consent

Privacy Zuckering - Tricks users into oversharing personal info

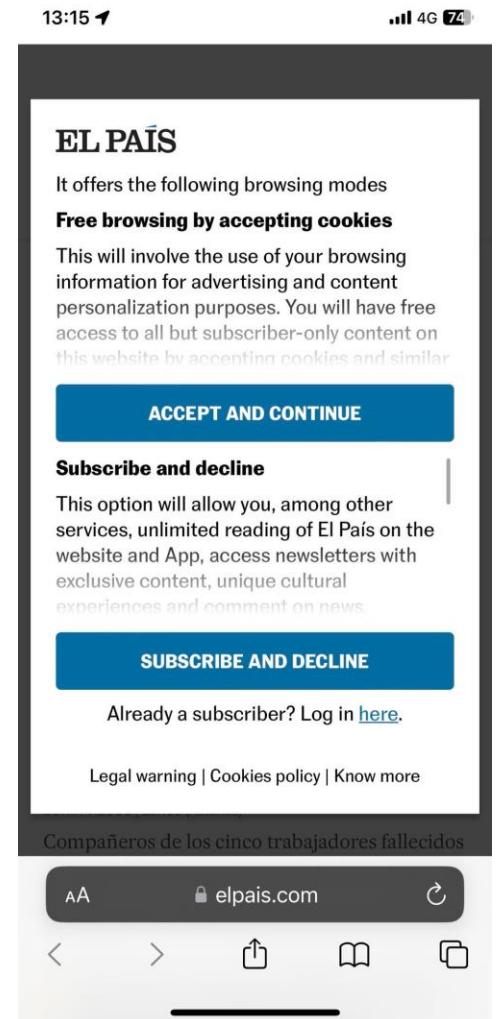
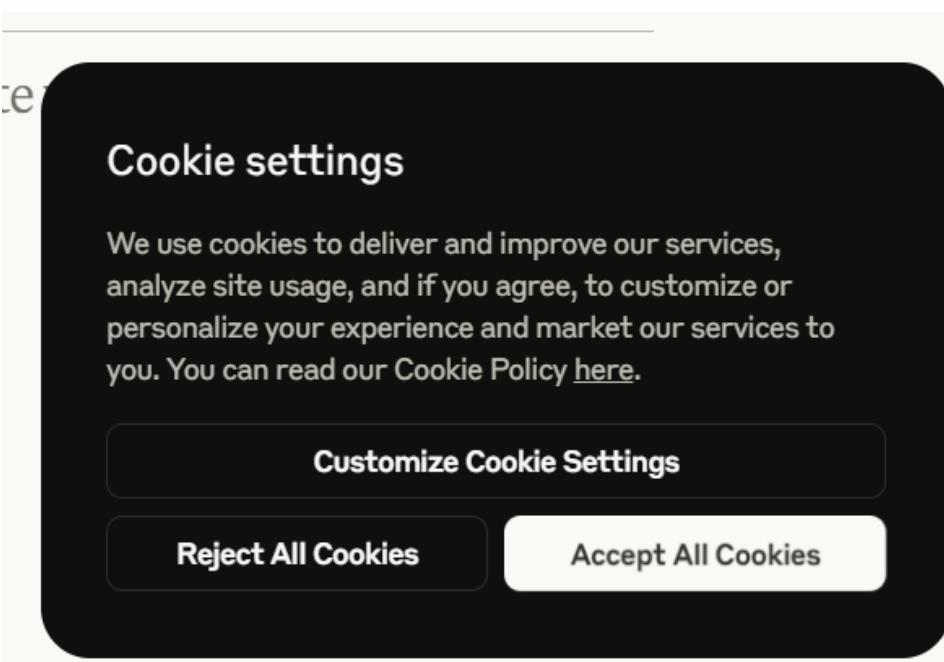
- making privacy controls difficult to find and understand burying information in lengthy privacy policies
- accessing/sending information without clear disclosure



4. Exploiting Consent

Cookie Consent Manipulation – Designs that push “Accept All” or bury rejection options.

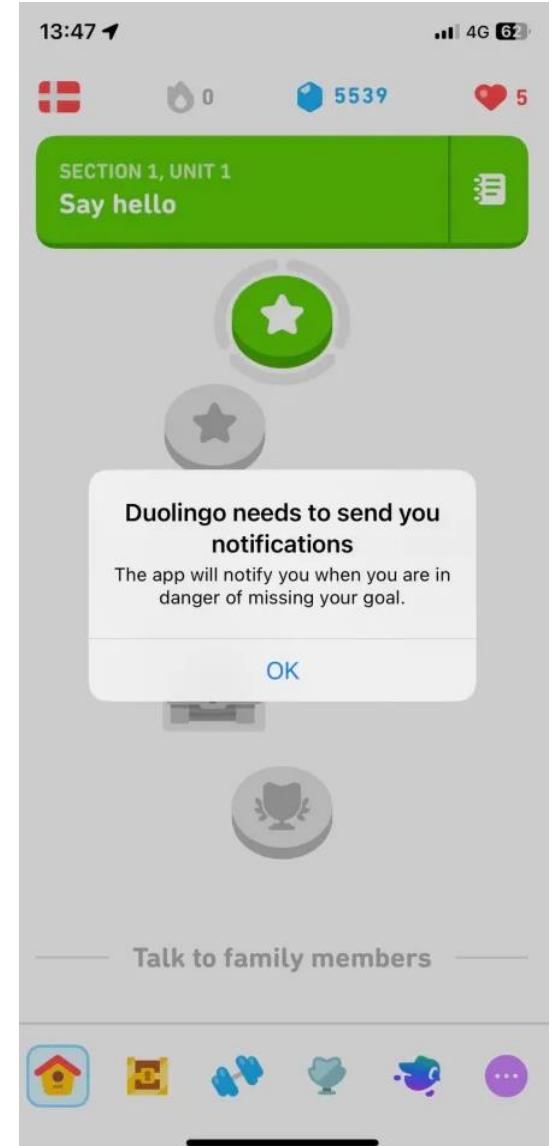
- large, colorful "Accept All" buttons while the "Reject" or "Customize"
- options are in gray text or require multiple clicks accept"
- buttons and tiny "Settings" links that lead to complicated opt-out processes
- websites that present cookie banners that take up the entire screen until you click "Accept," but make the "Manage Settings" option barely visible



4. Exploiting Consent

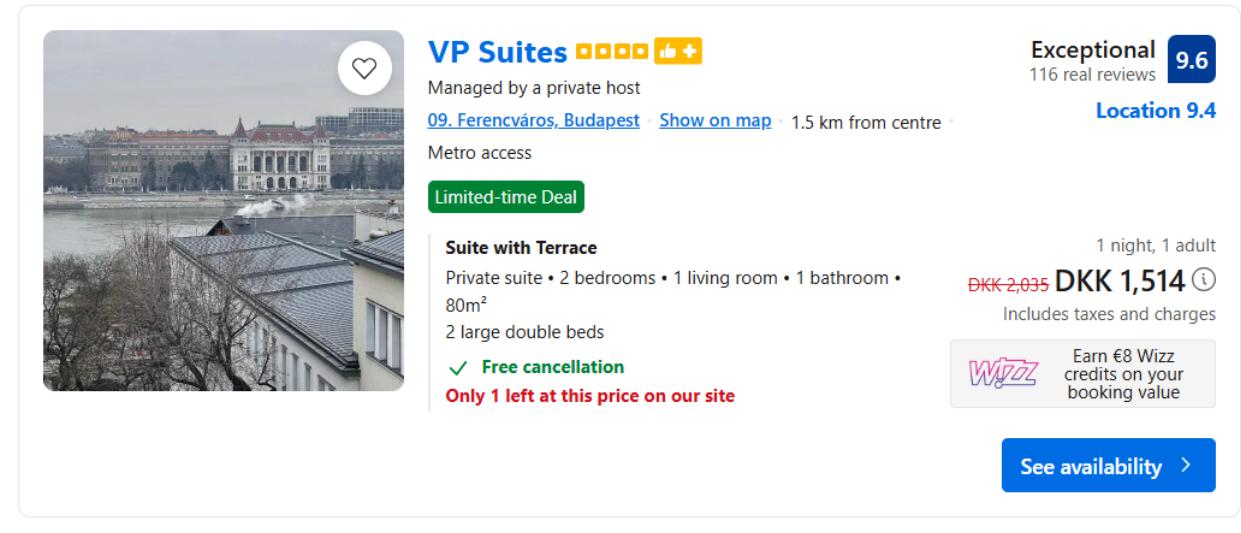
Forced Action – Requires users to take unrelated steps (e.g., sign up or share data) to proceed.

- Mobile apps requiring location access to use basic features that don't need location data
- Free WiFi services at airports or cafes that require signing up for marketing emails before getting internet access
- Adobe requiring users to create and log into an account to use basic PDF reading functions



5. Artificial Influence

Fake Scarcity – “Only 1 left!” even if it’s not true.



A screenshot of a Booking.com listing for "VP Suites" in Budapest. The listing includes a photo of a building overlooking a river, a rating of "Exceptional 9.6" based on 116 reviews, and a "Location 9.4". It features a "Limited-time Deal" for a "Suite with Terrace" starting at DKK 1,514 per night, valid until 2035. The deal includes taxes and charges and offers Wizz credits. A red arrow points to the "Only 1 left at this price on our site" message.

VP Suites ★★★★★ + +

Managed by a private host

09. Ferencváros, Budapest [Show on map](#) • 1.5 km from centre • Metro access

Limited-time Deal

Suite with Terrace

Private suite • 2 bedrooms • 1 living room • 1 bathroom • 80m² • 2 large double beds

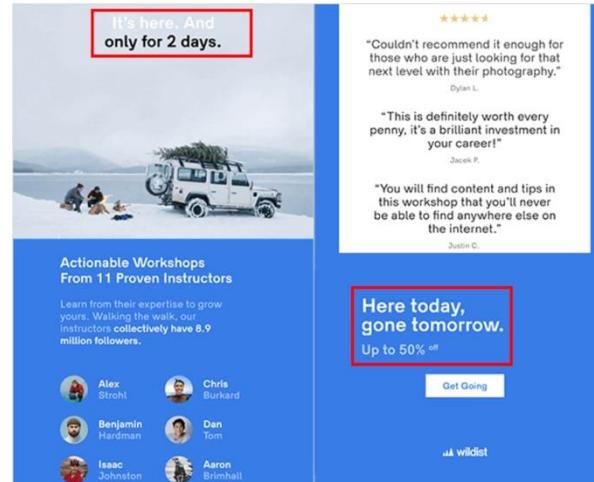
✓ **Free cancellation**

Only 1 left at this price on our site

1 night, 1 adult
DKK 2,035 DKK 1,514 ⓘ
Includes taxes and charges

Earn €8 Wizz credits on your booking value

[See availability >](#)



A screenshot of a course landing page. It features a photo of a white SUV parked on a beach, a testimonial from Dylan L., and a call-to-action button "Get Going". A red box highlights the text "Only 1 left!".

It's here. And only for 2 days.

Actionable Workshops From 11 Proven Instructors

Learn from their expertise to grow yours. Walking the walk, our instructors collectively have 8.9 million followers.

Alex Strohl, Benjamin Hardman, Isaac Johnston, Chris Burkard, Dan Tom, Aaron Brimhall

Here today, gone tomorrow.
Up to 50% off

Get Going

Waitlist

Try Float for free today.

Your online course content is top-notch, and we want you to know for sure that it'll shine with Float. Sign up for your account right here and try it out!

Join Blake, Zack, and 2165 others on the waitlist.

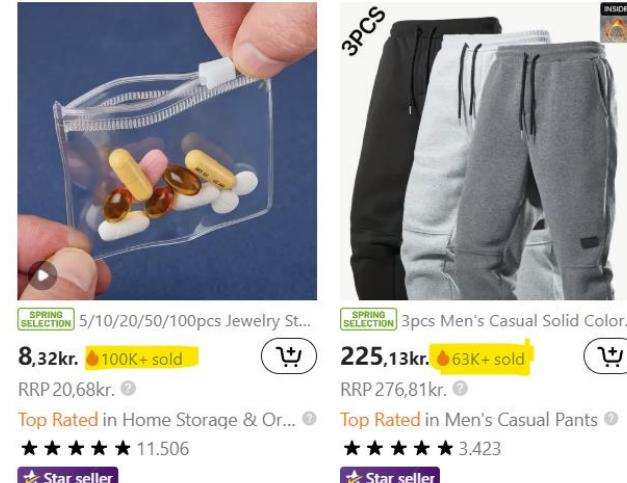
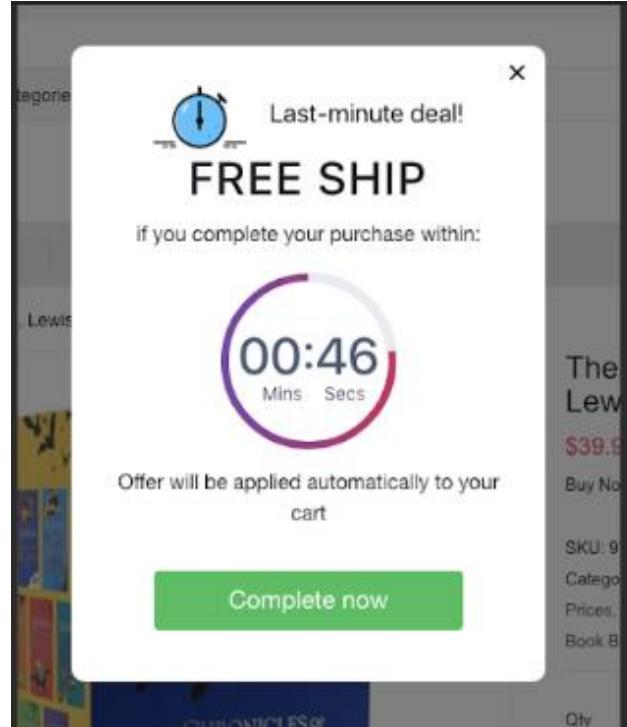
Enter your email

Request access



5. Artificial Influence

Fake Social Proof – Simulated reviews or notifications of purchases



k***0 13 Sep,2023



Color: Silver Size: one-size

Super cute and true to size. Like my comment so I can get more points laugh out loud. Also would totally recommend this for your corn. My child loves it and is obsessed



Translate

Points Program

Helpful (15) ...

I bought this product and it's really amazing!



King Julien
from Madagascar

Persuasive Design & Emotional Design

WEB DEVELOPMENT, UX 2025

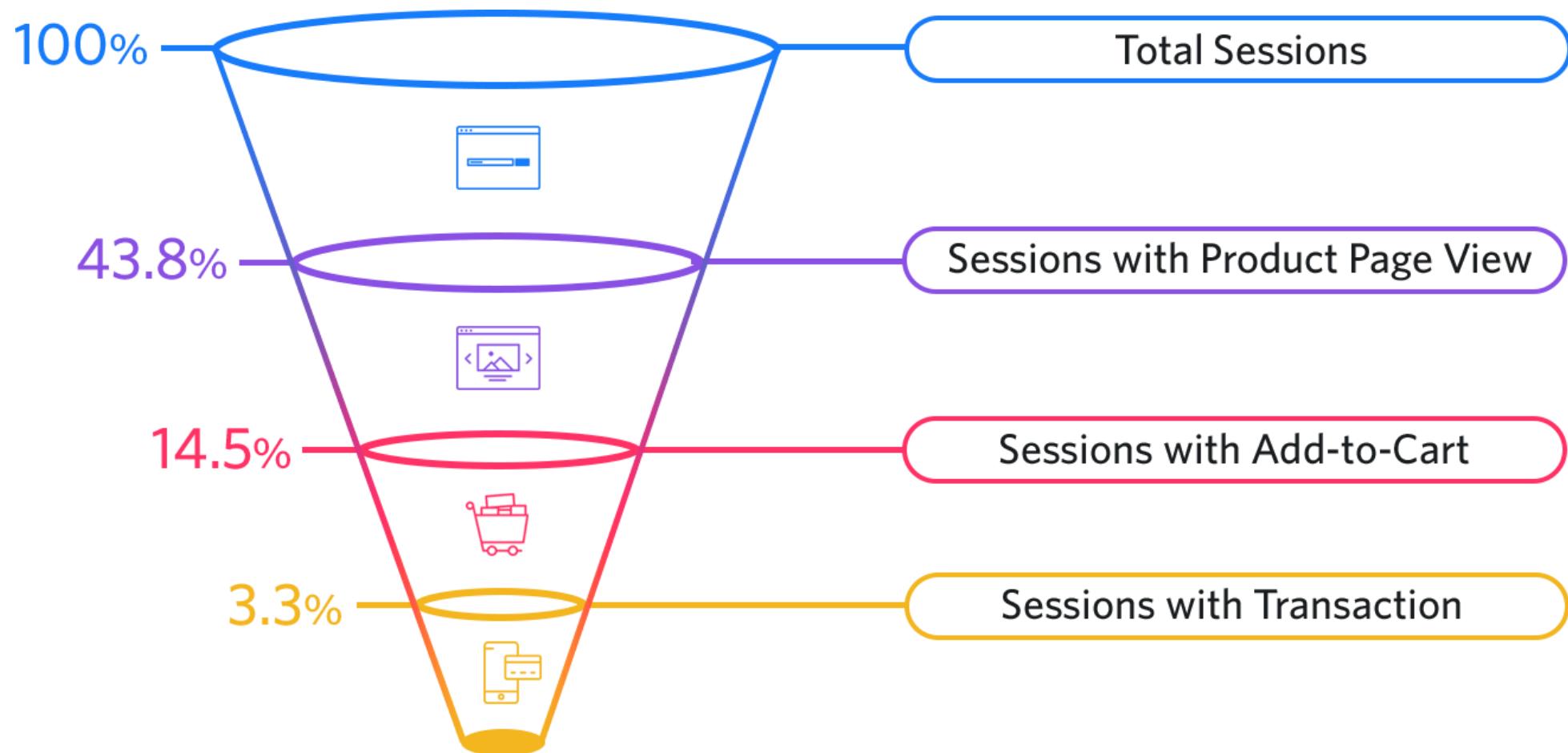
Persuasive design

Most wanted response

- The action that you want most users to take on a specific page
- The most wanted response should involve as little “friction” as possible



Conversion rate





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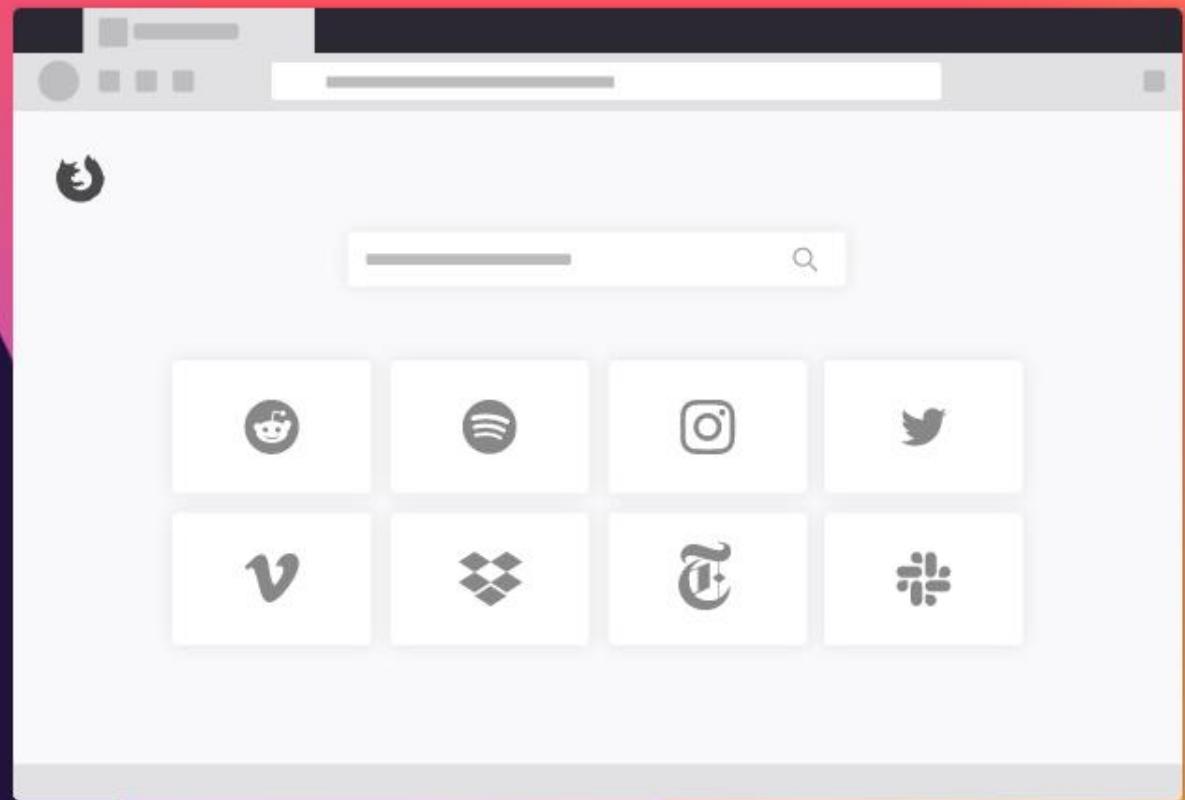
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MUZZLING CRITICAL VOICES

The Saudi authorities are using the Specialized Criminal Court (SCC) as a weapon to systematically silence dissent. That's why we're calling on the release of all human rights defenders detained for their peaceful expression.

[READ MORE](#)
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We campaign for a world where human rights are enjoyed by all

Amnesty International is a global movement of more than 7 million people in over 150 countries and territories who campaign to end abuses of human rights.



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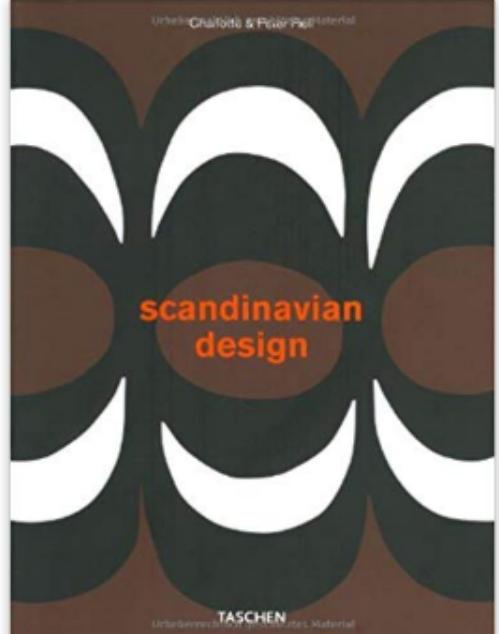
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Scandinavian Design Paperback – February 1, 2003

by Charlotte Fiell ▾ (Author), Peter Fiell (Author)

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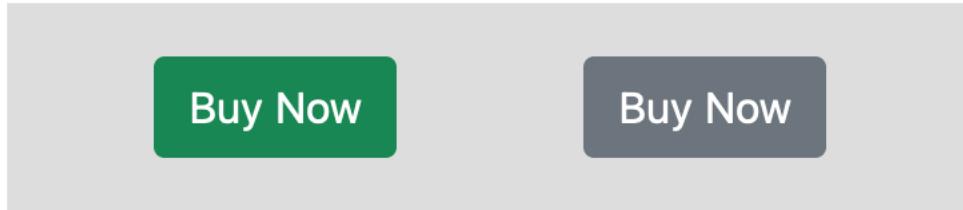
Add gift options

[Deliver to Denmark](#)

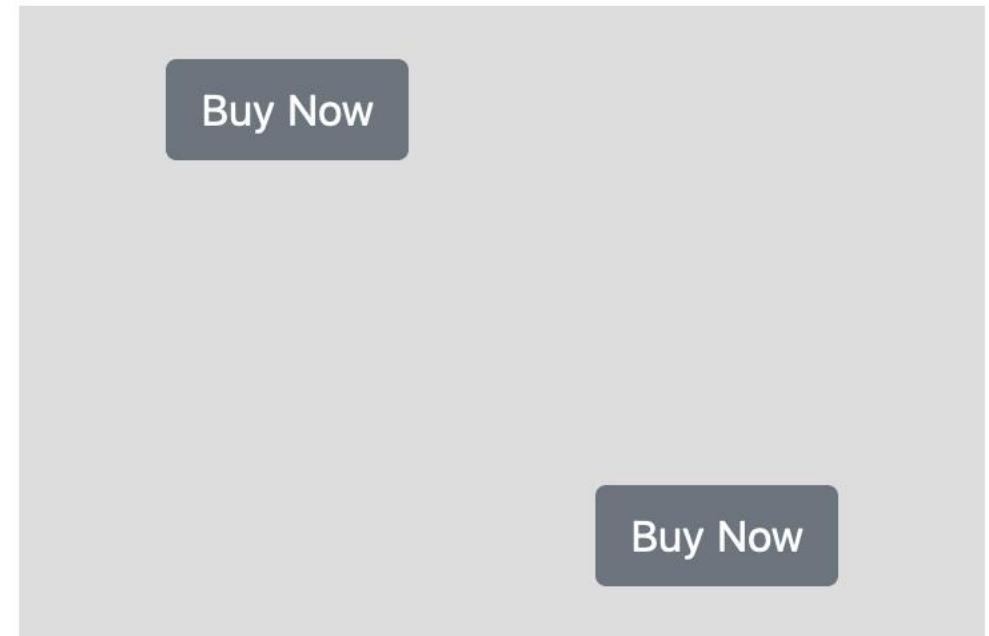
Add to List

Call to action design patterns

Color contrast



Placement



Size contrast



Microcopy



High

Motivation

Low

Hard to Do

Ability

Easy to Do

Fogg Behavior Model

BehaviorModel.org

B=MAP

at the same moment

Prompts
succeed here

Prompts
fail here

Action Line

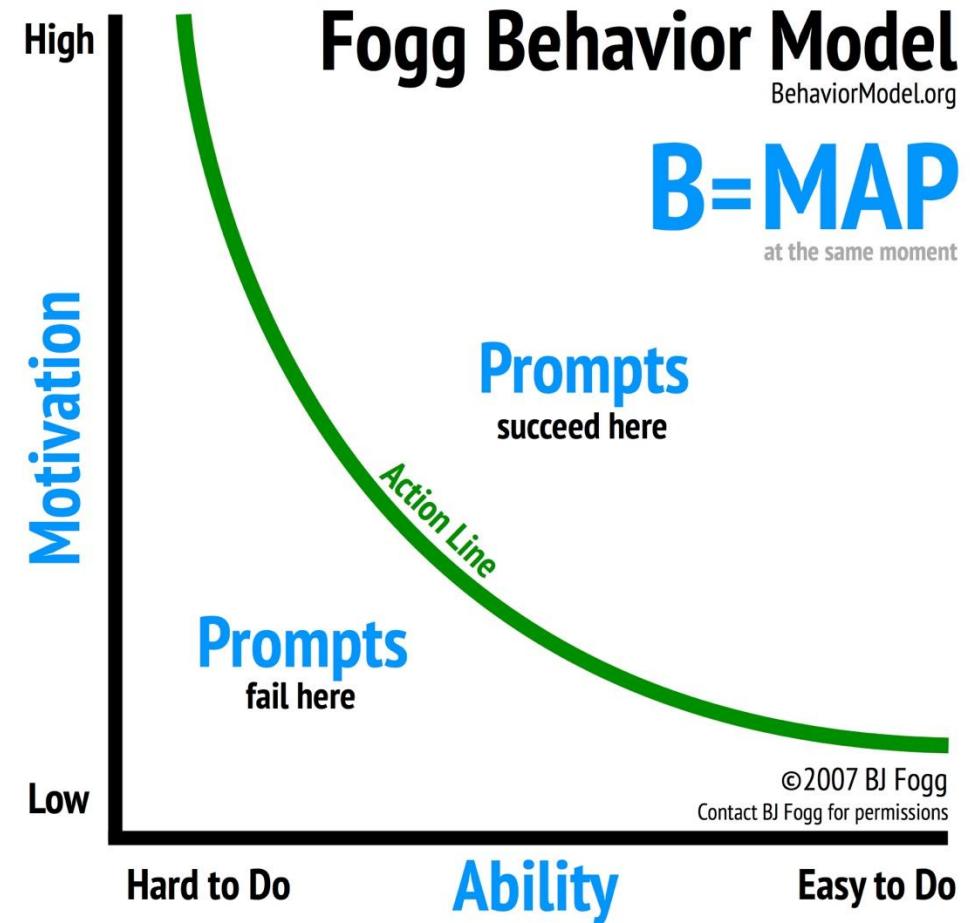
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Summary

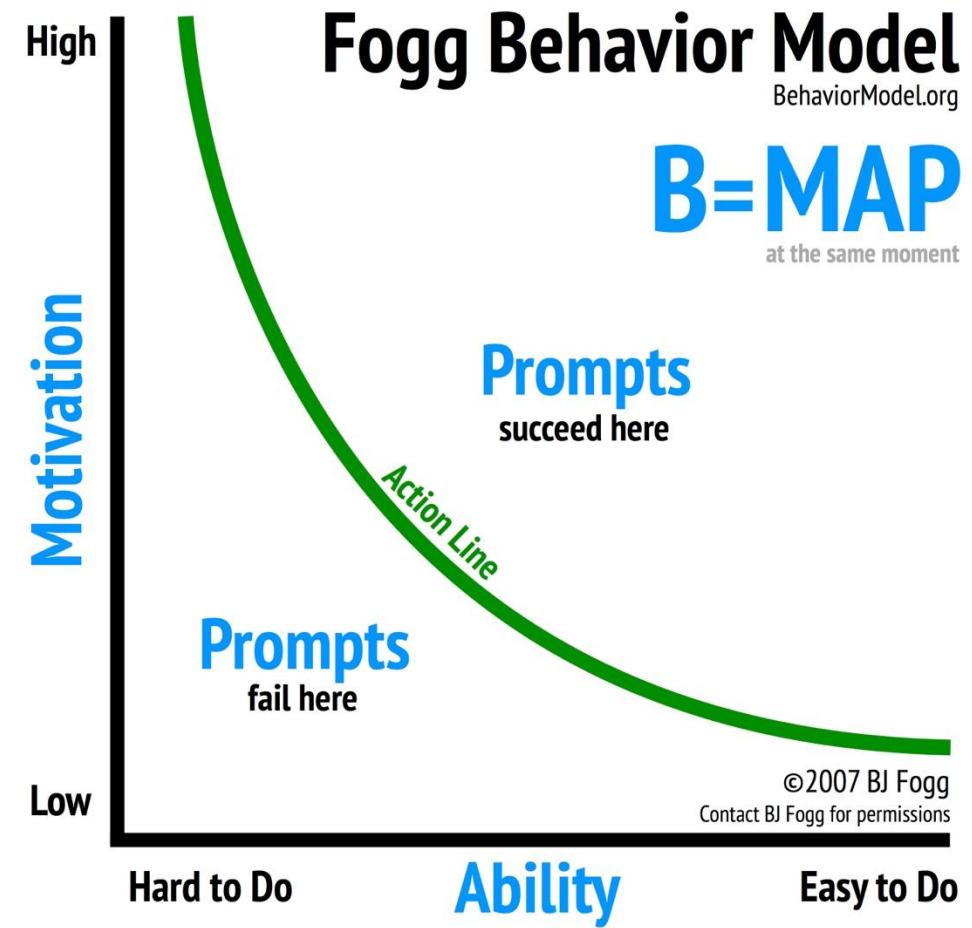
- **Prompt**
Something that says “do this now”
- **Ability**
Can I do it?
- **Motivation**
Do I want to do it?

For a behavior to happen, all 3 things must come together at the same time.



Exercise

- Take a look at this site:
<https://www.unisportstore.com/>
- How could you make more users signup to become a “member”?
 - Motivation?
 - Ability?
 - Prompts?



Design ethics

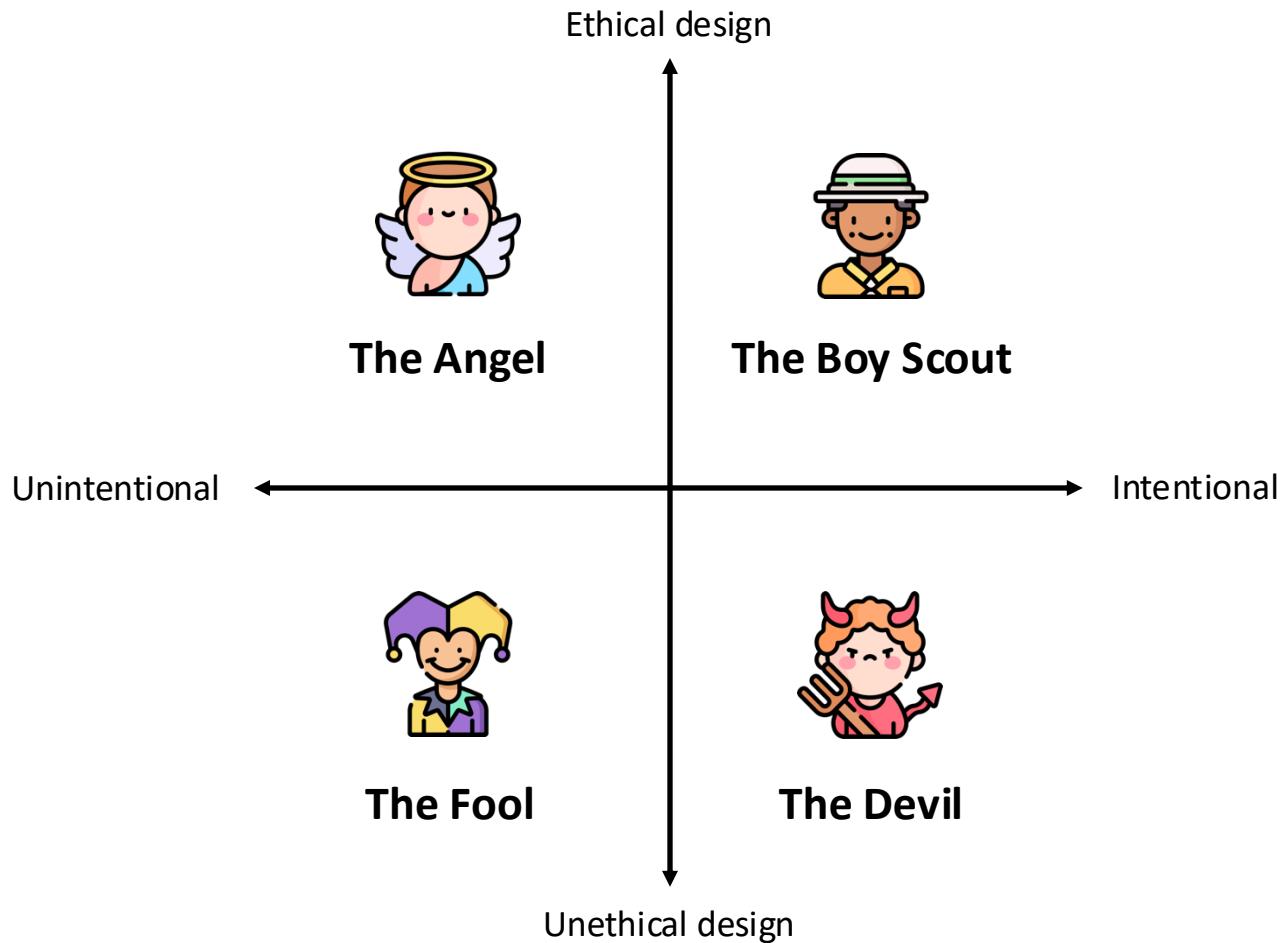
Ethics

"Ethical questions concern how you treat other people and other living beings."

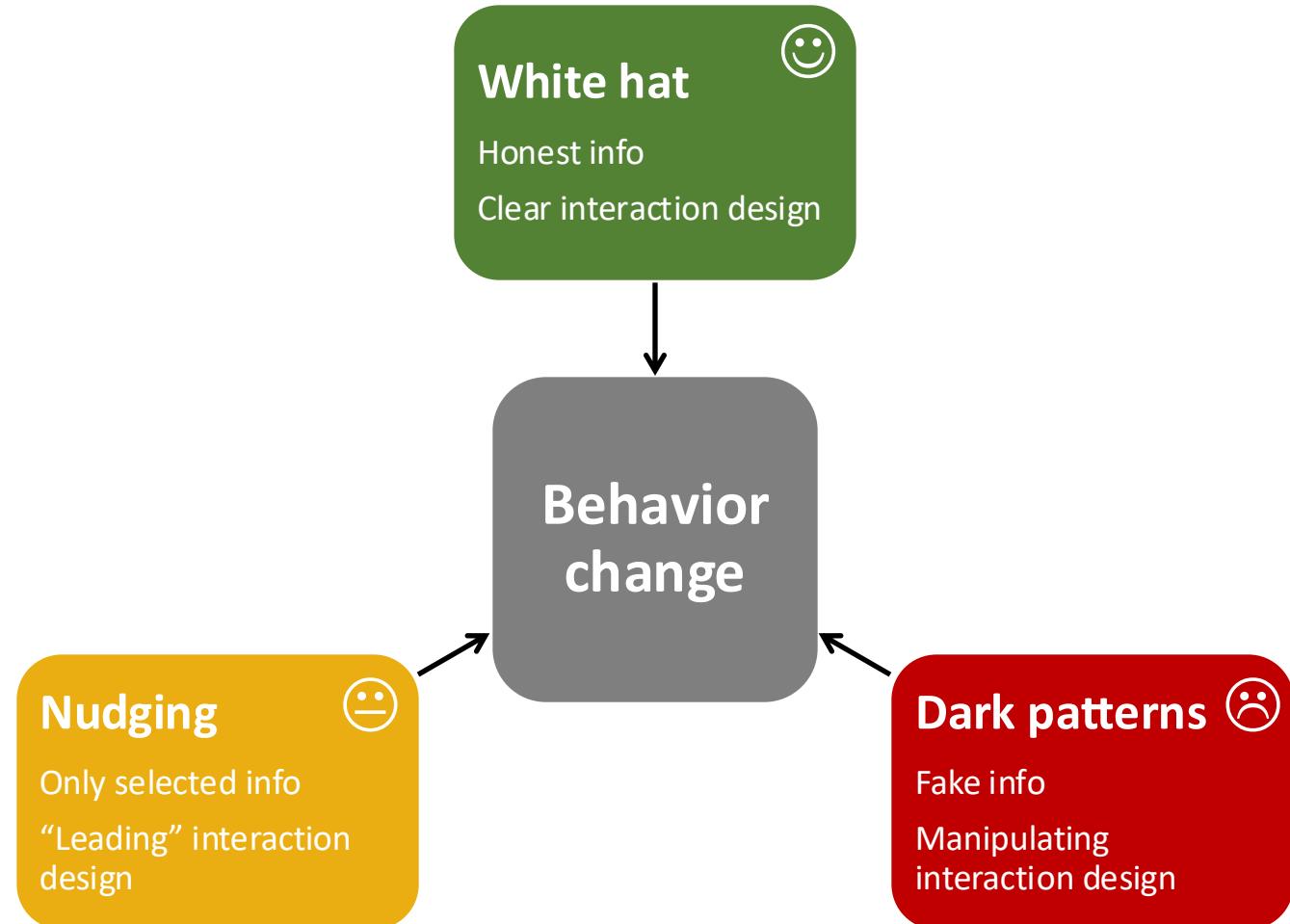
—Danish Council of Ethics

Practical questions	Legal questions	Ethical questions
What can I do?	What must I do?	What should I do?

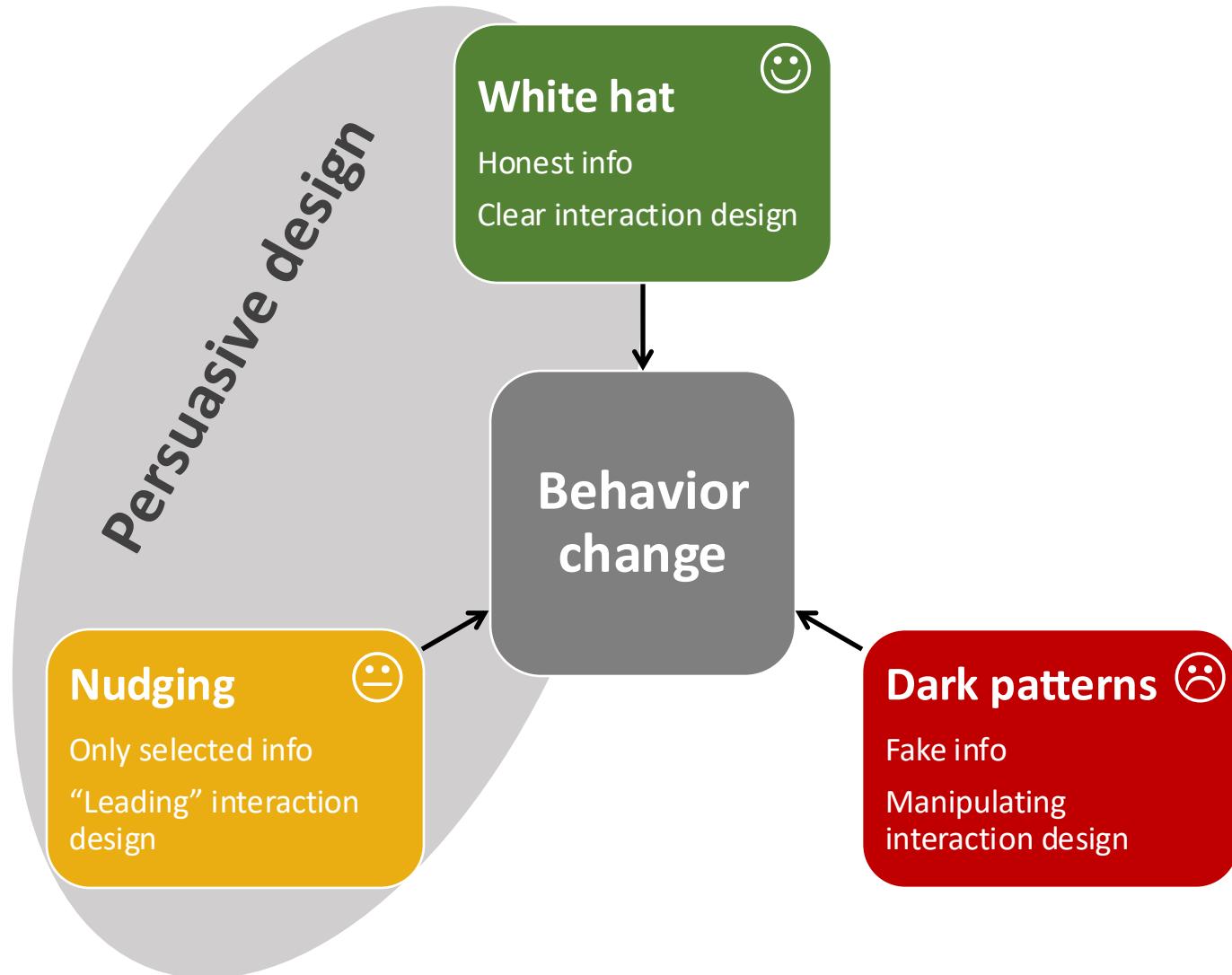
What kind of designer are you?



Good vs. evil



Good vs. evil

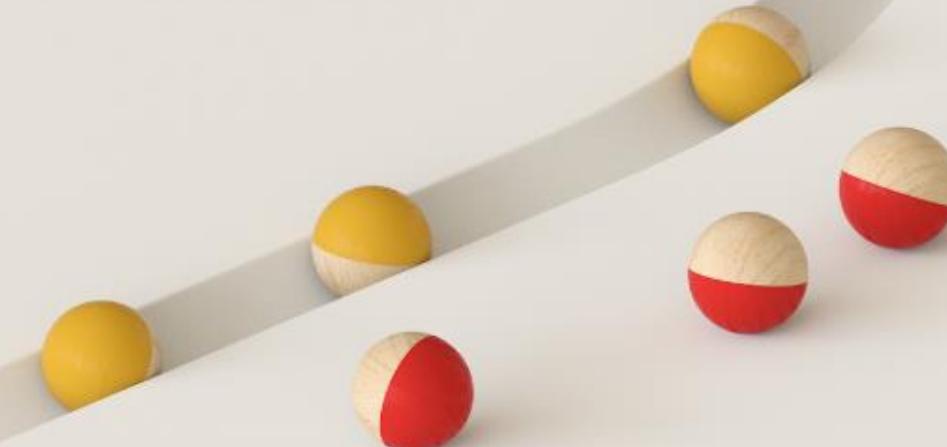






Slack replaces email inside your company

Keep conversations organized in Slack, the smart alternative to email.

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Break out of the inbox

Working in channels gives everyone on your team a shared view of progress and purpose.

Volksabstimmung und Großdeutscher Reichstag

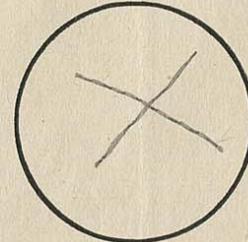
Stimmzettel

Bist Du mit der am 13. März 1938 vollzogenen

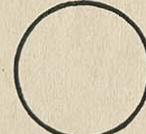
Wiedervereinigung Österreichs mit dem Deutschen Reich
einverstanden und stimmst Du für die Liste unseres Führers

Adolf Hitler?

Ja



Nein

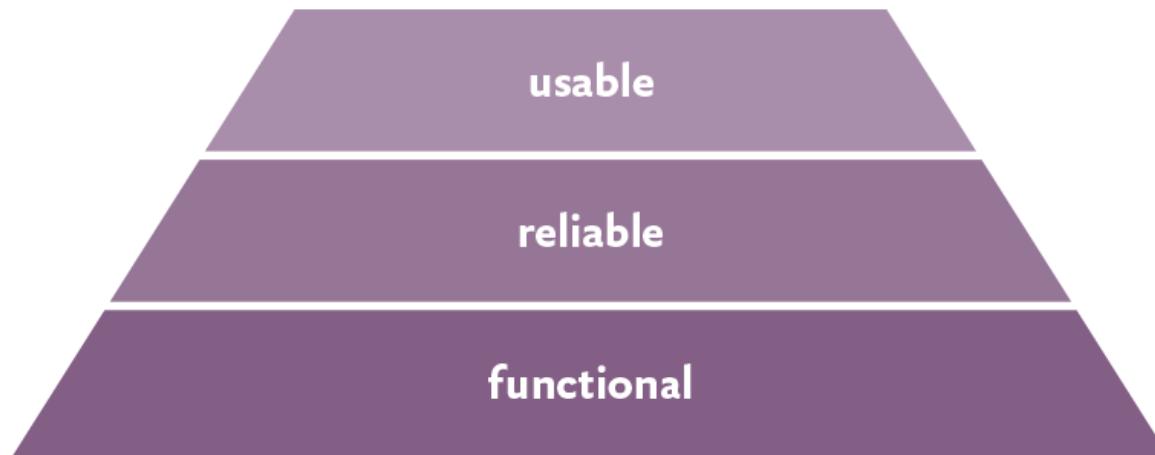


Emotional design

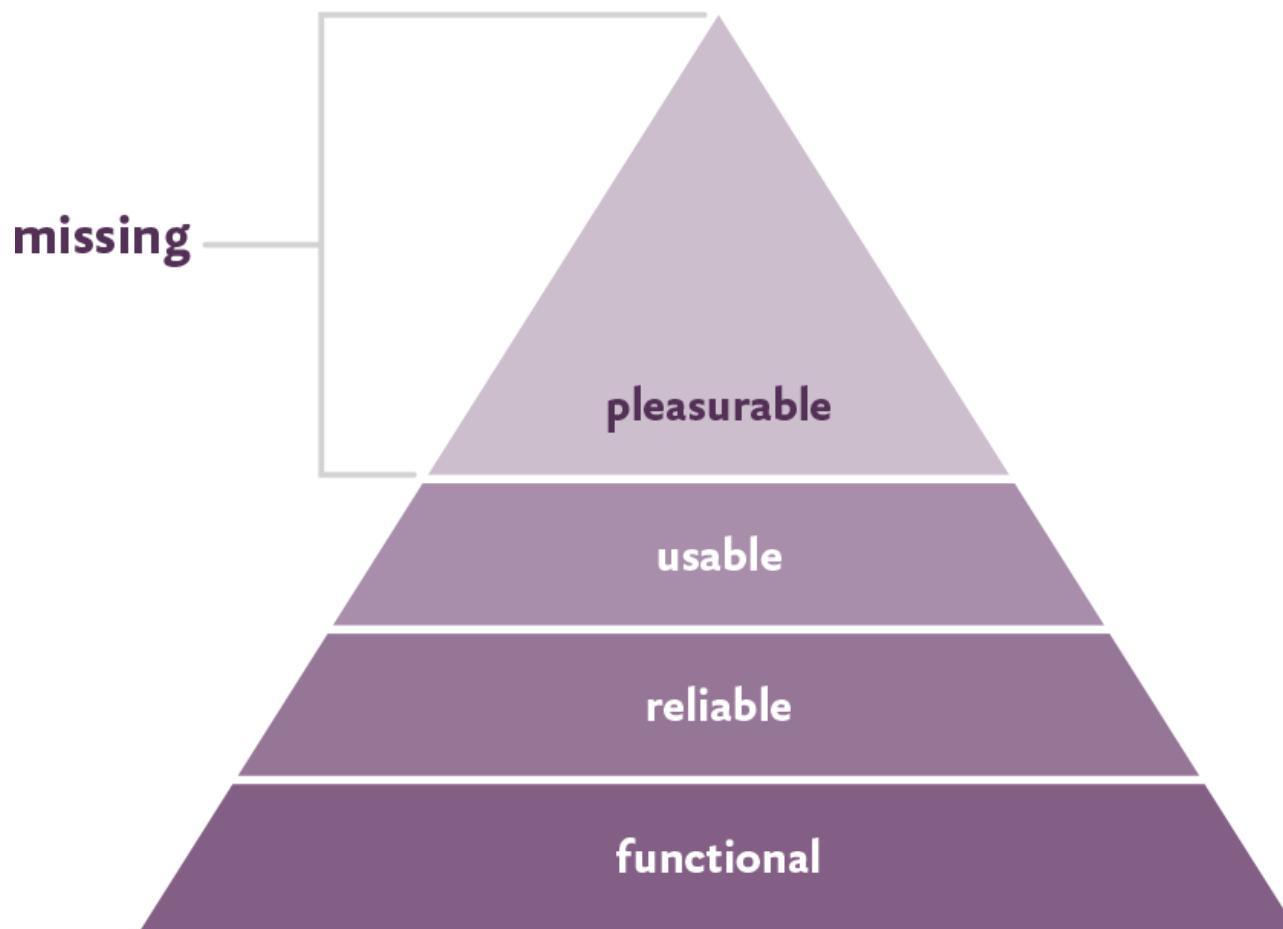
Maslow's hierarchy of needs



Aarron Walter's hierarchy of user needs



Aarron Walter's hierarchy of user needs



When is a website pleasurable?



Donald Norman's 3 Levels of Design

- **Visceral (form)**
The look and feel of things – first impression
- **Behavioral (function)**
How things work – performance, usability, ergonomics
- **Reflective (meaning)**
What story does the design tell?
Does the design appeal to your self image?



Vespa

VESPA PRIMAVERA COLOR VIBE

[DISCOVER MORE](#)



VESPA PRIMAVERA COLOR VIBE

Vespa 946 "bunny"

Discover 2023 news

X Vespa

BEOSOUND EMERGE

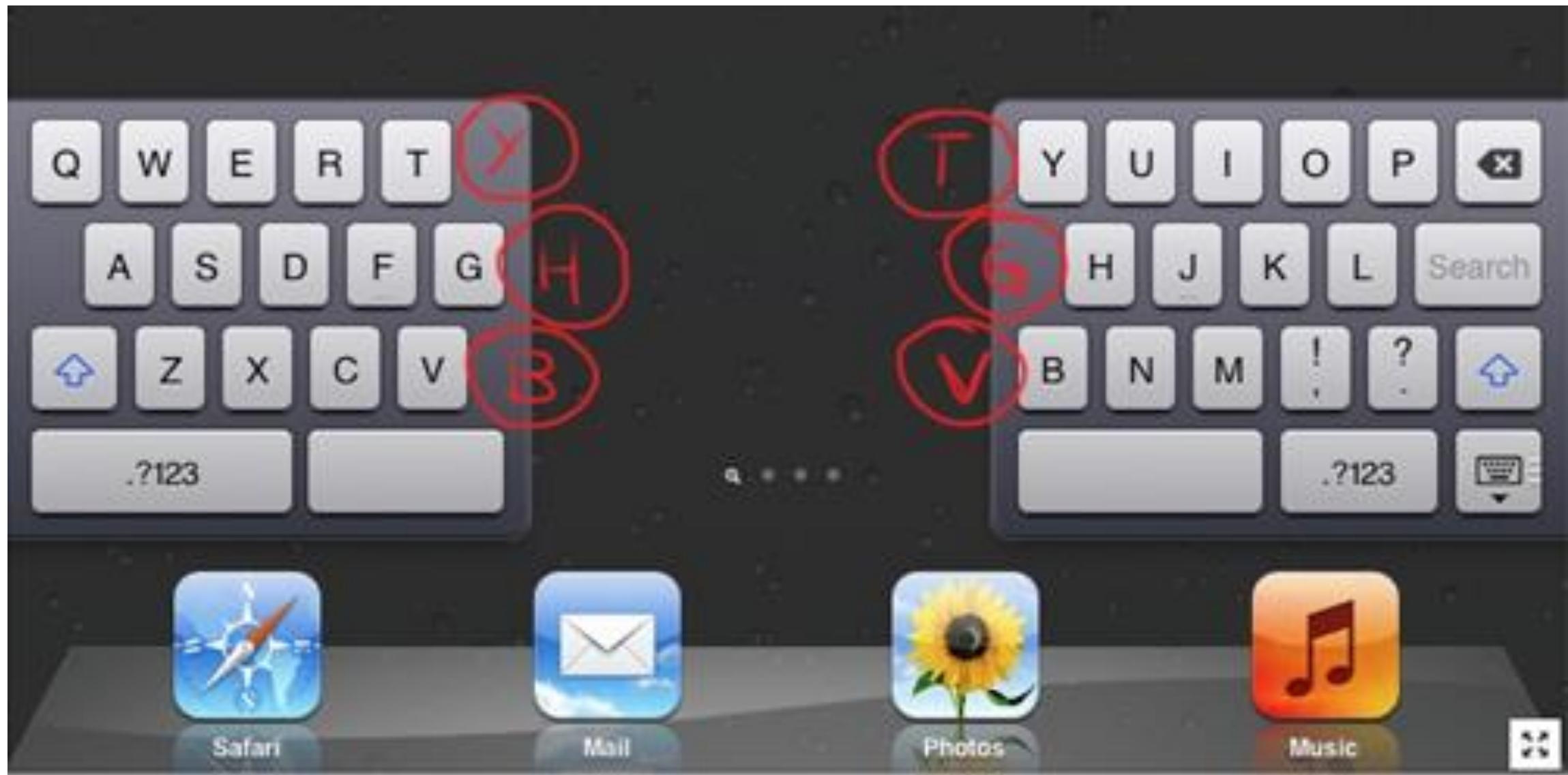
Impossibly slim.

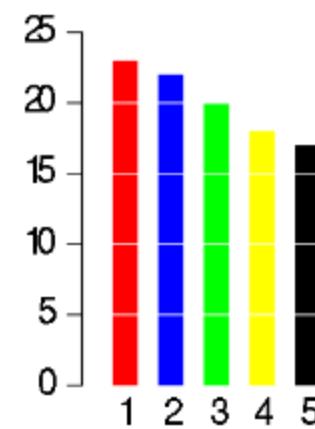
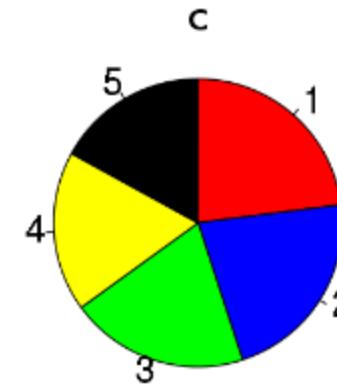
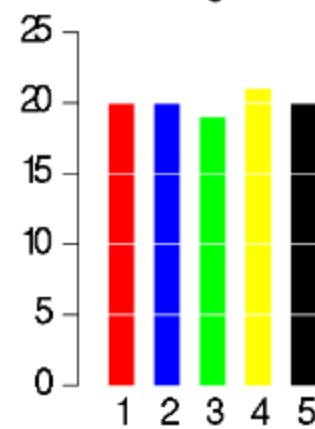
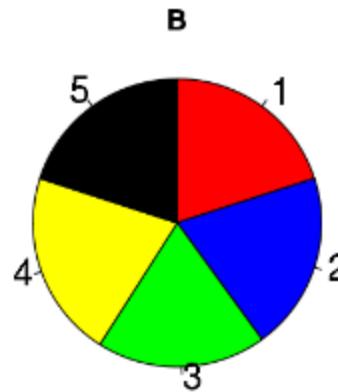
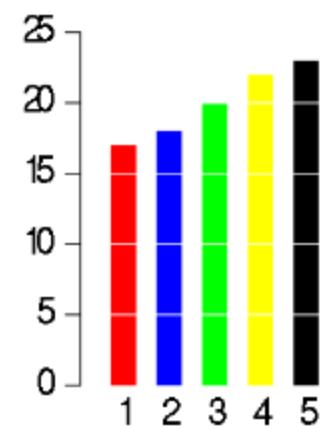
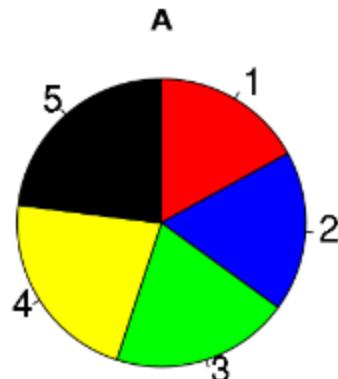
A slim wifi speaker that fits in anywhere and reaches you everywhere in the room with full-range, ultra-wide sound.

[Explore](#)

Apple Watch Series 8

[Oversigt](#)[Hvorfor vælge Apple Watch?](#)[Køb](#)



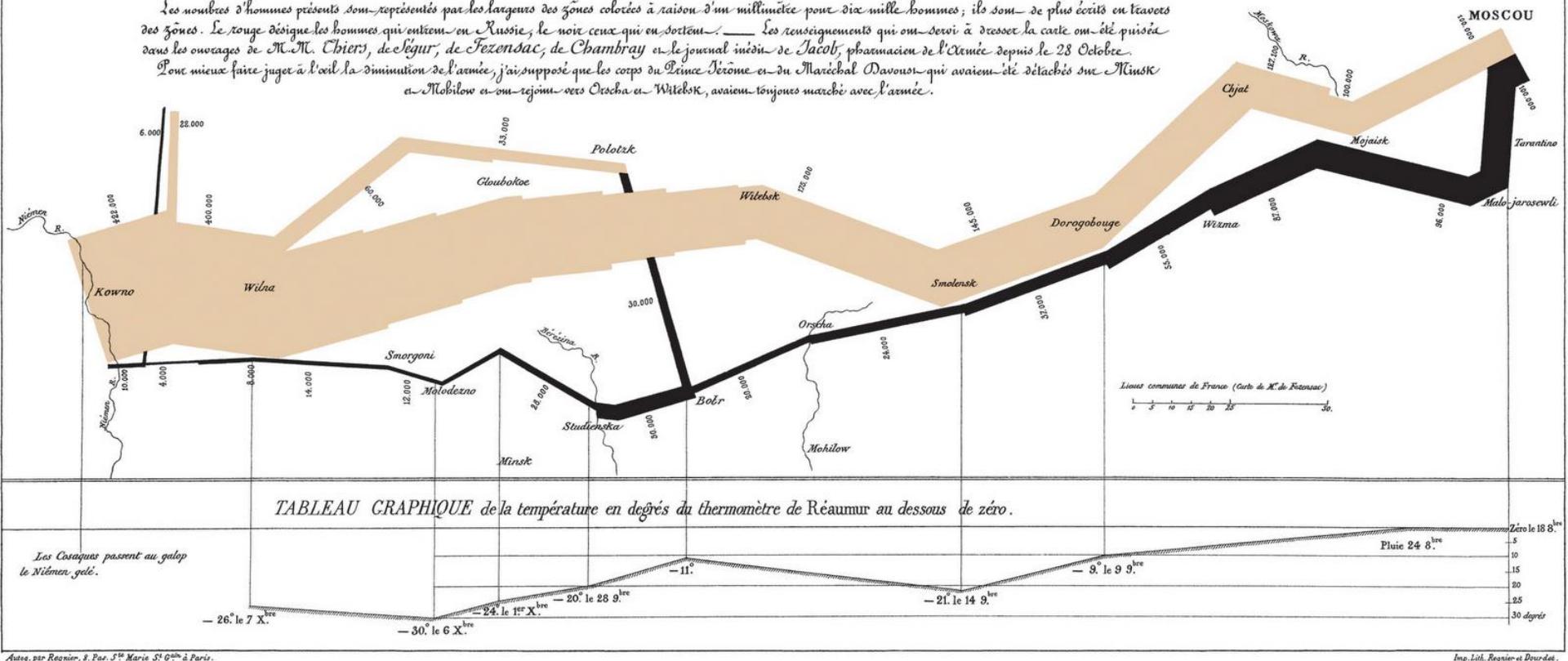


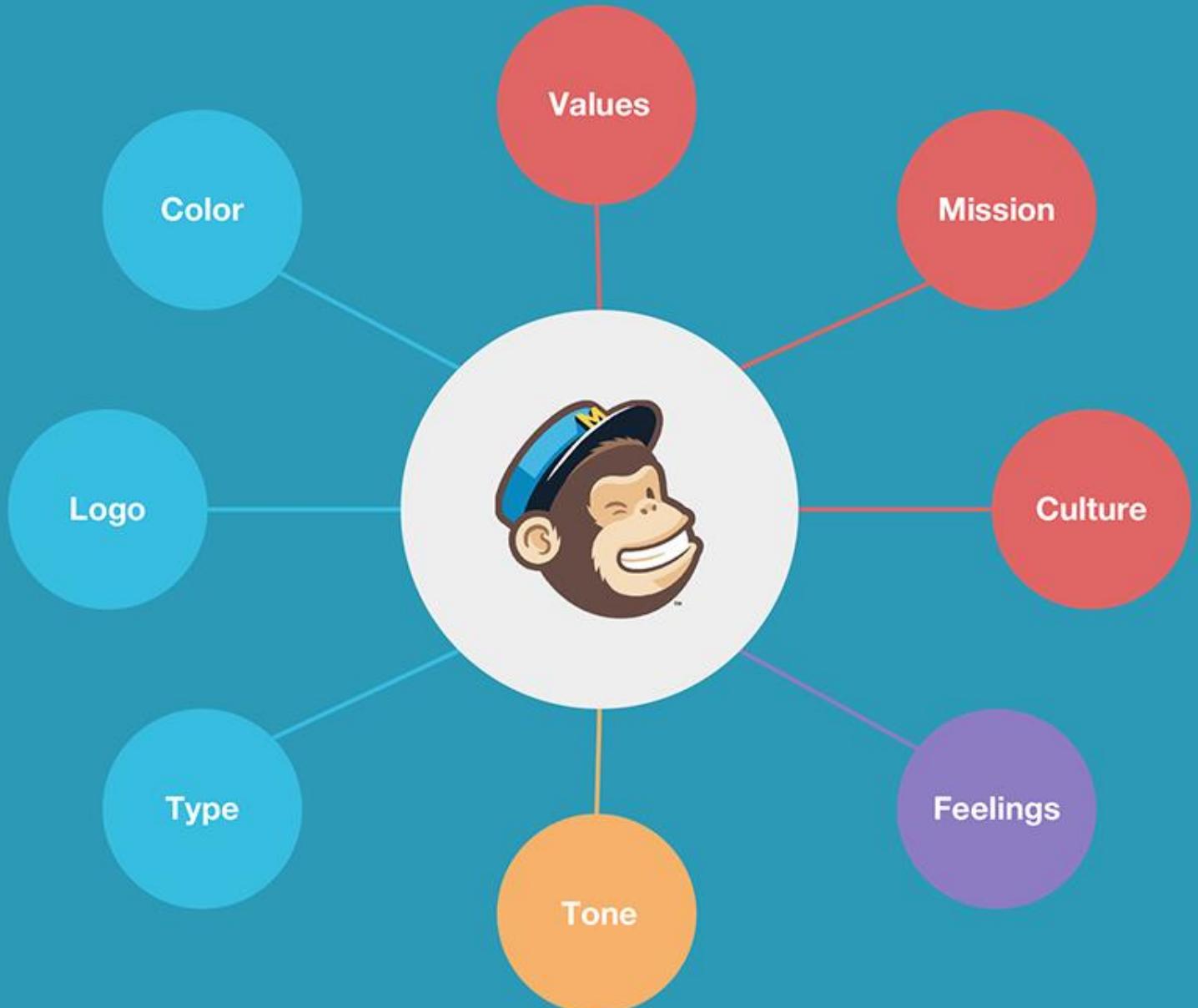
Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Dessinée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite Paris, le 20 Novembre 1869.

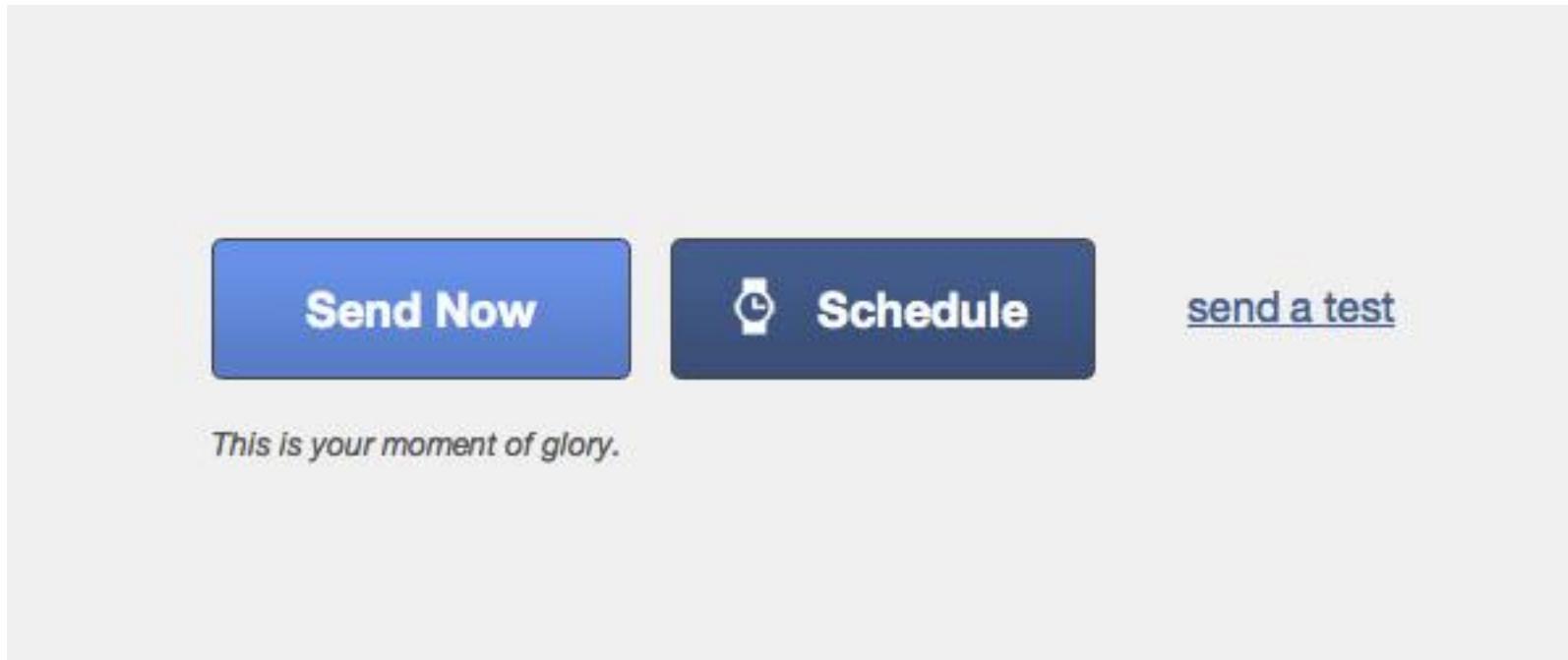
Les nombres d'hommes perdus sont représentés par les larges des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zones. Le rouge désigne les hommes qui ont péri en Russie, le noir ceux qui en sortent. Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M. Chiers, de Légit, de Fezensac, de Chambray et le journal médical de Jacob, pharmacien de l'Armée depuis le 28 Octobre.

Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davout, qui avaient été détachés sur Minsk et Mohilow en ont rejoint vers Orscha et Witebsk, avaient toujours marché avec l'armée.





Tone of voice (MailChimp)





Colours In Culture



A Western / American	1 Anger	19 Desire
B Japanese	2 Art / Creativity	20 Earthy
C Hindu	3 Authority	21 Energy
D Native American	4 Bad Luck	22 Erotic
E Chinese	5 Balance	23 Eternity
F Asian	6 Beauty	24 Evil
G Eastern European	7 Calm	25 Excitement
H Arab	8 Celebration	26 Family
I African	9 Children	27 Femininity
J South American	10 Cold	28 Fertility
	11 Compassion	29 Flamboyance
	12 Courage	30 Freedom
	13 Cowardice	31 Friendly
	14 Cruelty	32 Fun
	15 Danger	33 God
	16 Death	34 Gods
	17 Decadence	35 Good Luck
	18 Deceit	36 Gratitude

37 Growth	55 Luxury	73 Royalty
38 Happiness	56 Marriage	74 Self-cultivation
39 Healing	57 Modesty	75 Strength
40 Healthy	58 Money	76 Style
41 Heat	59 Mourning	77 Success
42 Heaven	60 Mystery	78 Trouble
43 Holiness	61 Nature	79 Truce
44 Illness	62 Passion	80 Trust
45 Insight	63 Peace	81 Unhappiness
46 Intelligence	64 Penance	82 Virtue
47 Intuition	65 Power	83 Warmth
48 Religion	66 Personal power	84 Wisdom
49 Jealousy	67 Purity	
50 Joy	68 Radicalism	
51 Learning	69 Rational	
52 Life	70 Reliable	
53 Love	71 Repels Evil	
54 Loyalty	72 Respect	

█ Yellow
 █ Grey
█ Gold
 █ Silver

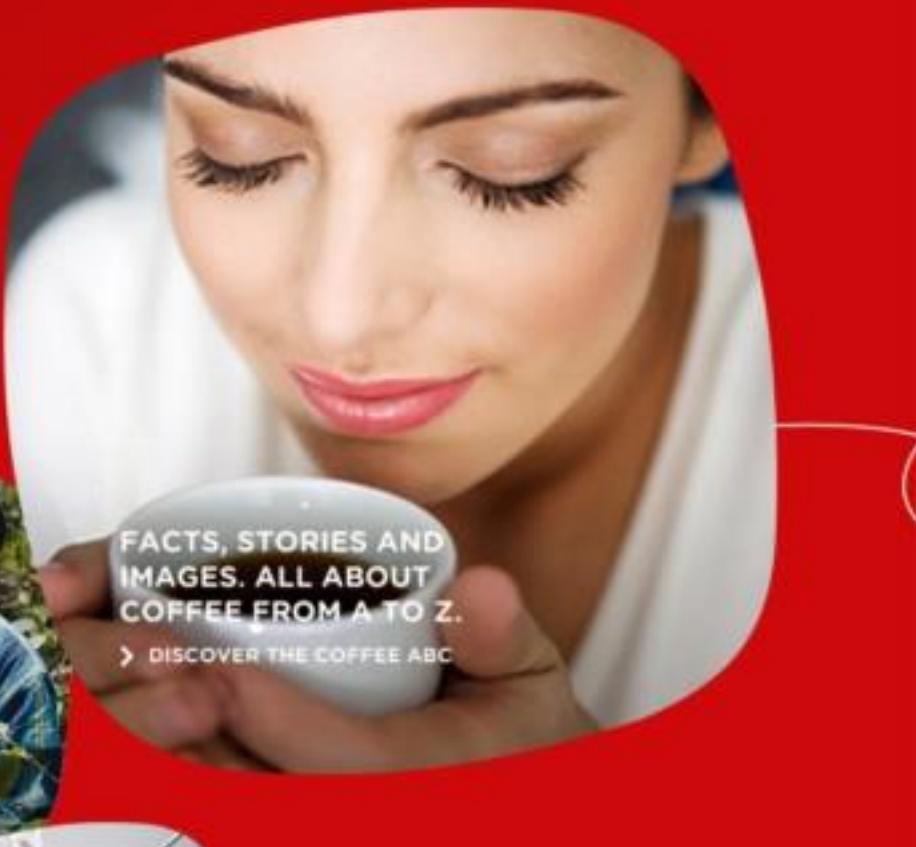
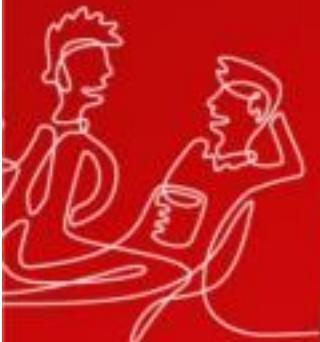


Search

HOME OUR COFFEES COFFEE ABC THE NESCAFÉ PLAN COFFEE AND WELL-BEING MY NESCAFÉ

WELCOME TO THE WORLD OF NESCAFÉ

Here at NESCAFÉ we believe there is something special in our little everyday moments. From that first wonderful sip of hot, milky coffee in the morning to those ten stolen minutes of me-time with a latte in the afternoon.





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Thursday June 14, 2012

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for
AMERICA



“This is what change looks like.”

PRESIDENT BARACK OBAMA
ON THE PASSAGE OF
HEALTH CARE REFORM

Fired Up?

Email Address

Zip Code

LET'S GO!

POWERED BY HOPE
AND SUPPORTERS LIKE YOU



SKIP SIGNUP
CONTINUE TO WEBSITE

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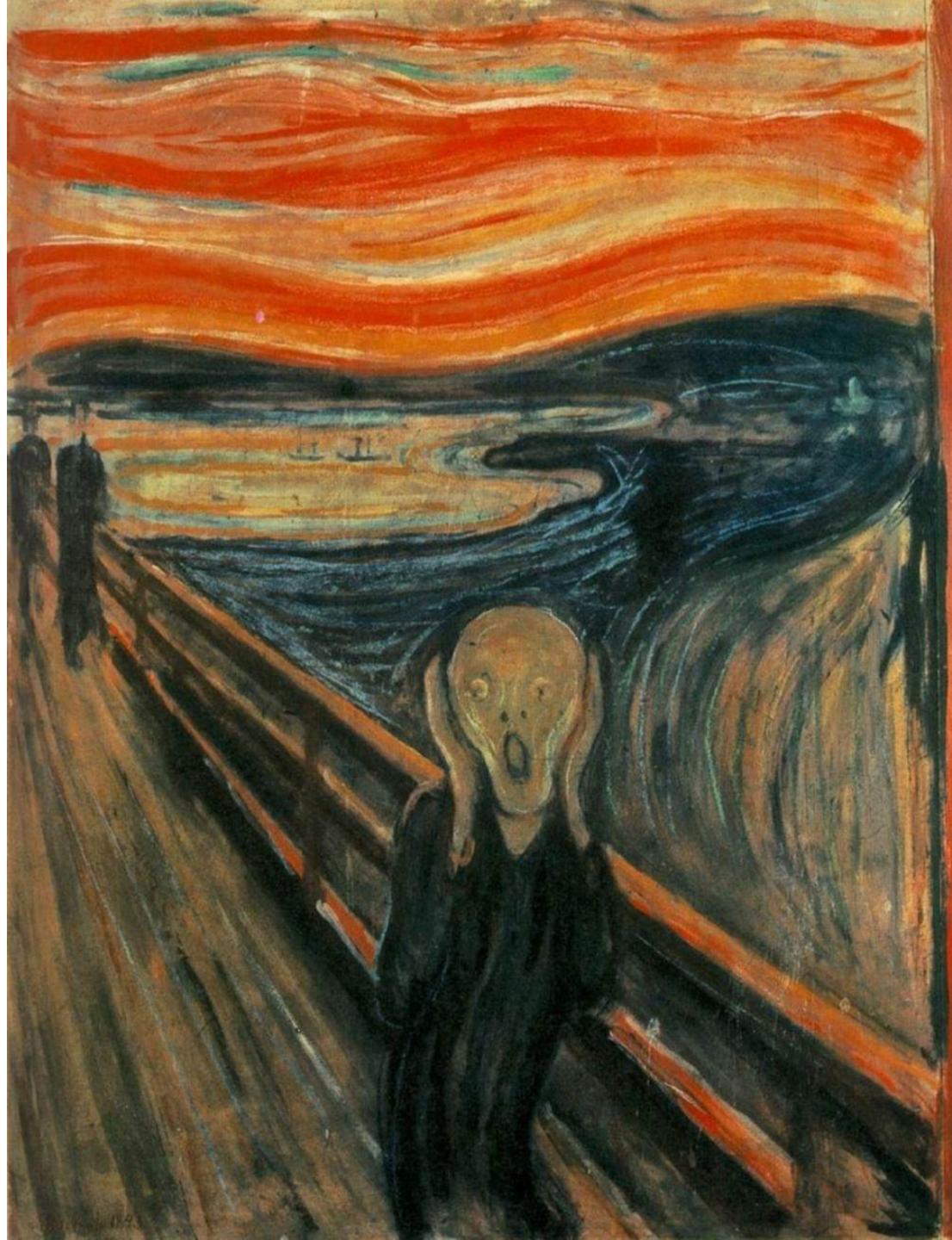


Exercise

- How to warn future generations about the presence of nuclear waste?
- Your design must
 1. Clearly warn people to stay away
 2. Assume that people in the future won't know about radioactivity or speak any language known today



**Warning
Radioactive
material**





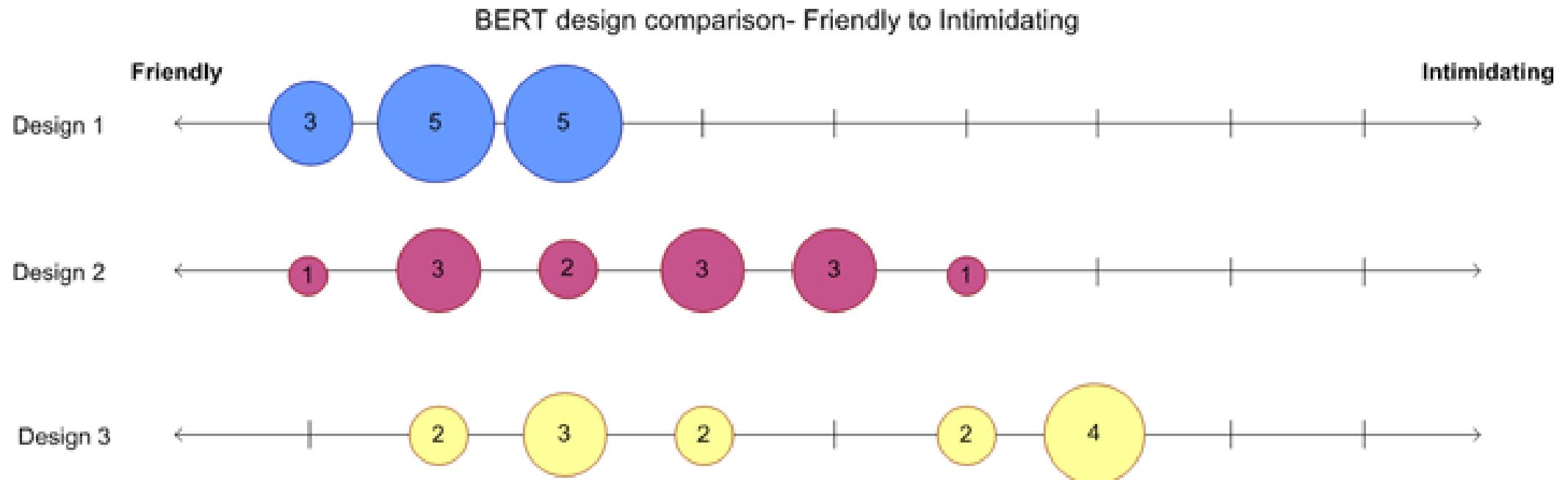


BERT (Bipolar Emotional Response Test)

How would you describe the design? (tick or cross)

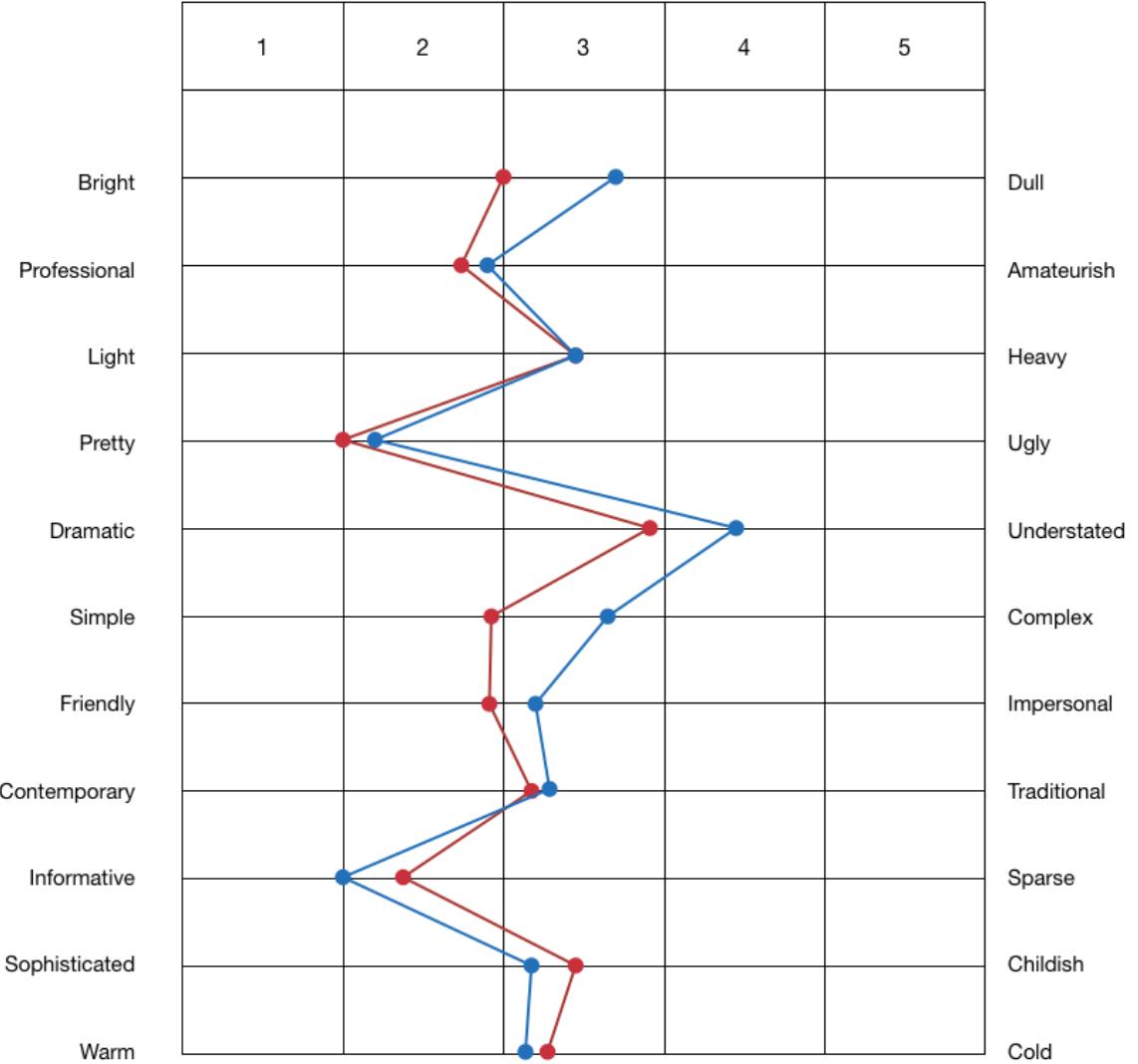
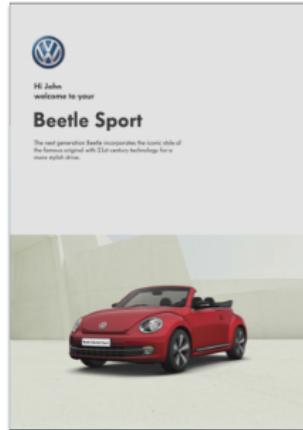
Friendly		Intimidating
Dated		Cutting edge
Poor quality		High quality
High tech		Antiquated
Sophisticated		Unrefined
Professional		Amateur
Ugly		Pretty

BERT (Bipolar Emotional Response Test)



Digital Brochures

Styles A and B BERT: Combined





Social Sustainable UX design

#Social
#Ethics
#Accessibility

Web.
Jeppe Stockmar, 2025

Week 12

- Intro to Sustainable UX focus on the environmental
- Intro to the Sustainable UX and other tools
- Non-Human Persona
- Case - part 1

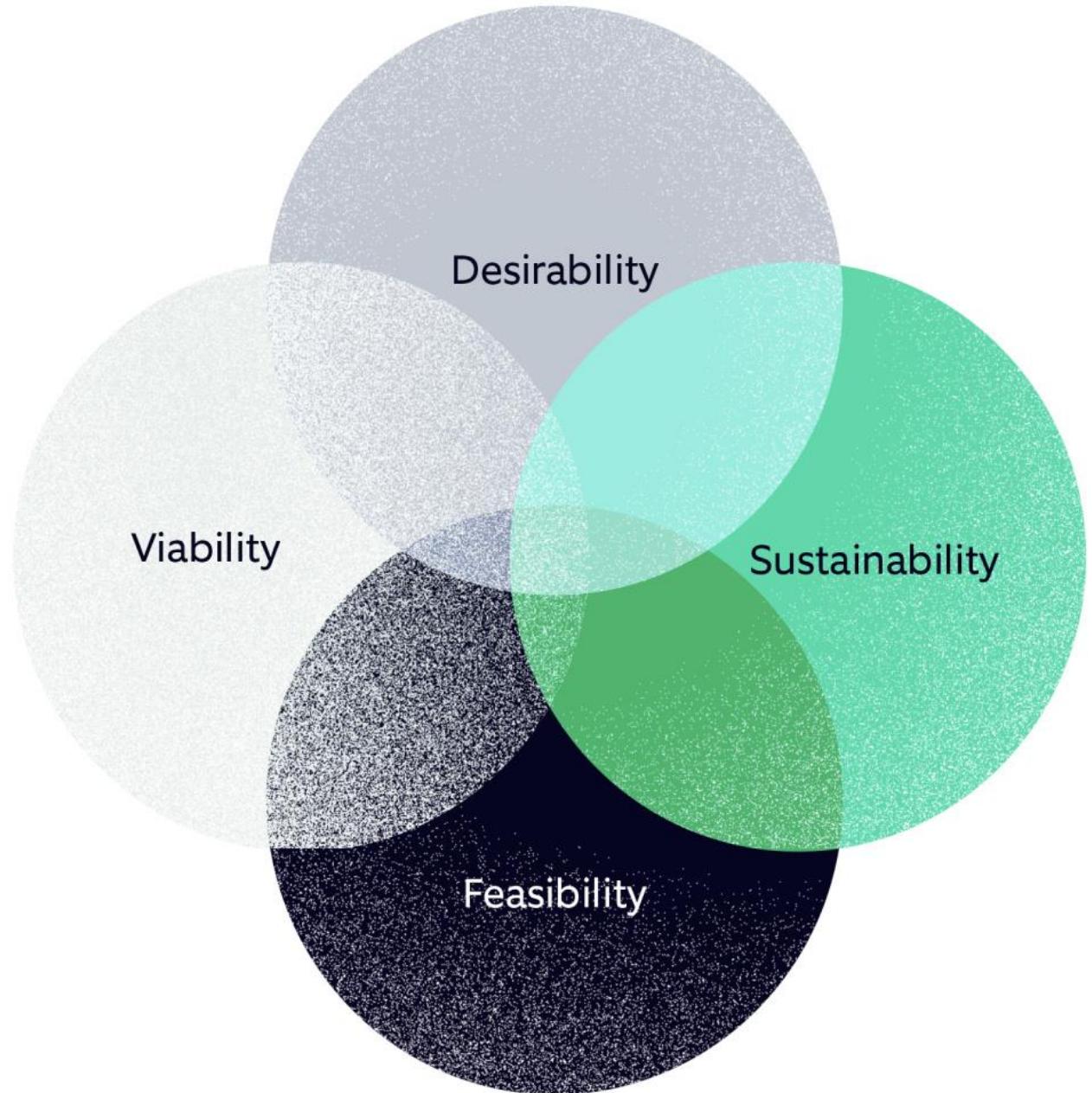
Week 13

- Sustainable UX Focus on the Social, Ethical Design
- Case - part 2
- Groupwork

Week 14

- Sustainable UX Focus on Deceptive design
- Case - part 3
- Groupwork

*Sustainable UX design
integrates environmental,
social, and economic
responsibility into creating and
delivering digital experiences.*



**Social
Sustainable**

SOCIAL SUSTAINABILITY IS:

- Safety
- Health
- Personal relationships
- Safety
- Equality



- Freedom
- Environment and services
- Prosperity
- Inclusion
- Individual empowerment

Social sustainability in digital design

1. Gender bias

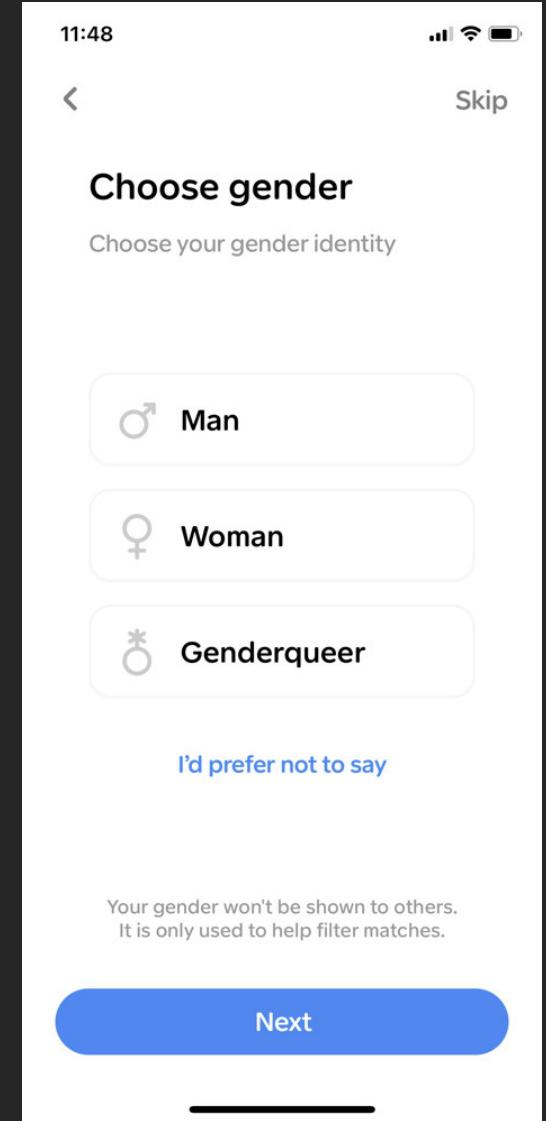
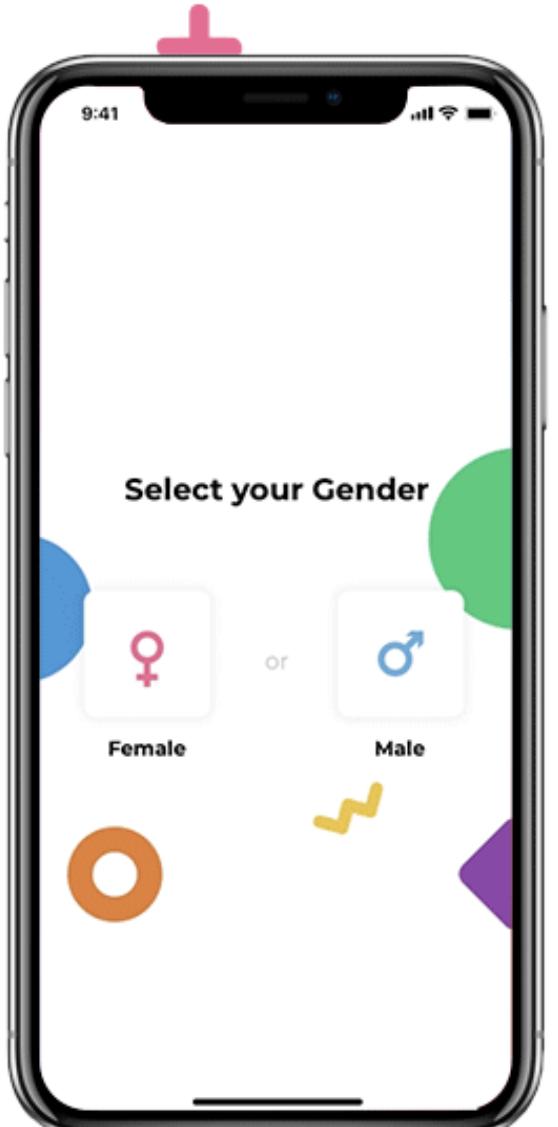
The creation of digital products that **perpetuate stereotypes** or **exclude** certain **genders**

2. Deceptive patterns

Digital solutions that exploit the way people usually use websites and apps to get users **to do something they didn't intend** to do

3. Exclusion by design

Is design that does **not meet the needs of people** with permanent, temporary or situational disabilities?



Gender bias - stereotypes

Color schemes can also be biased in design.

Ladies Color Palette



blue men Color Palette



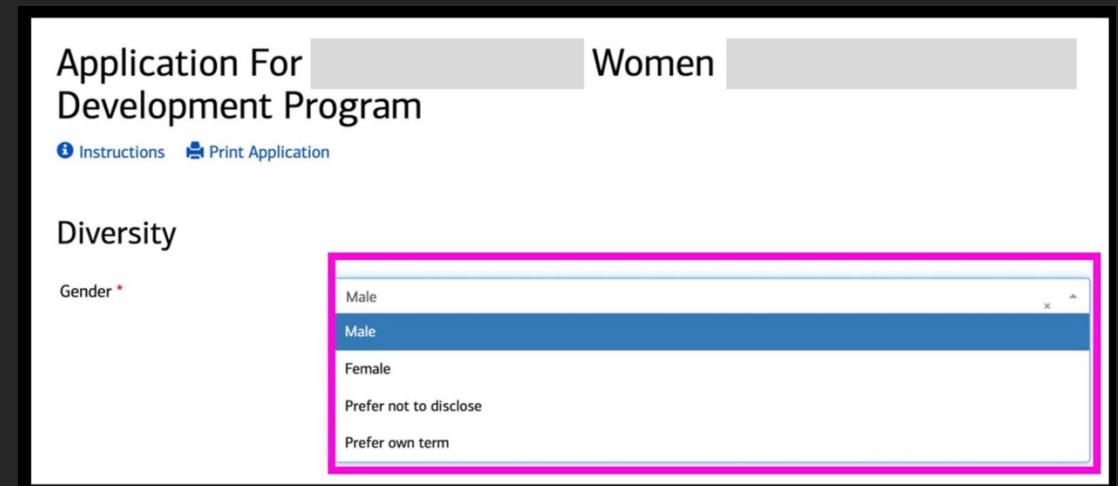
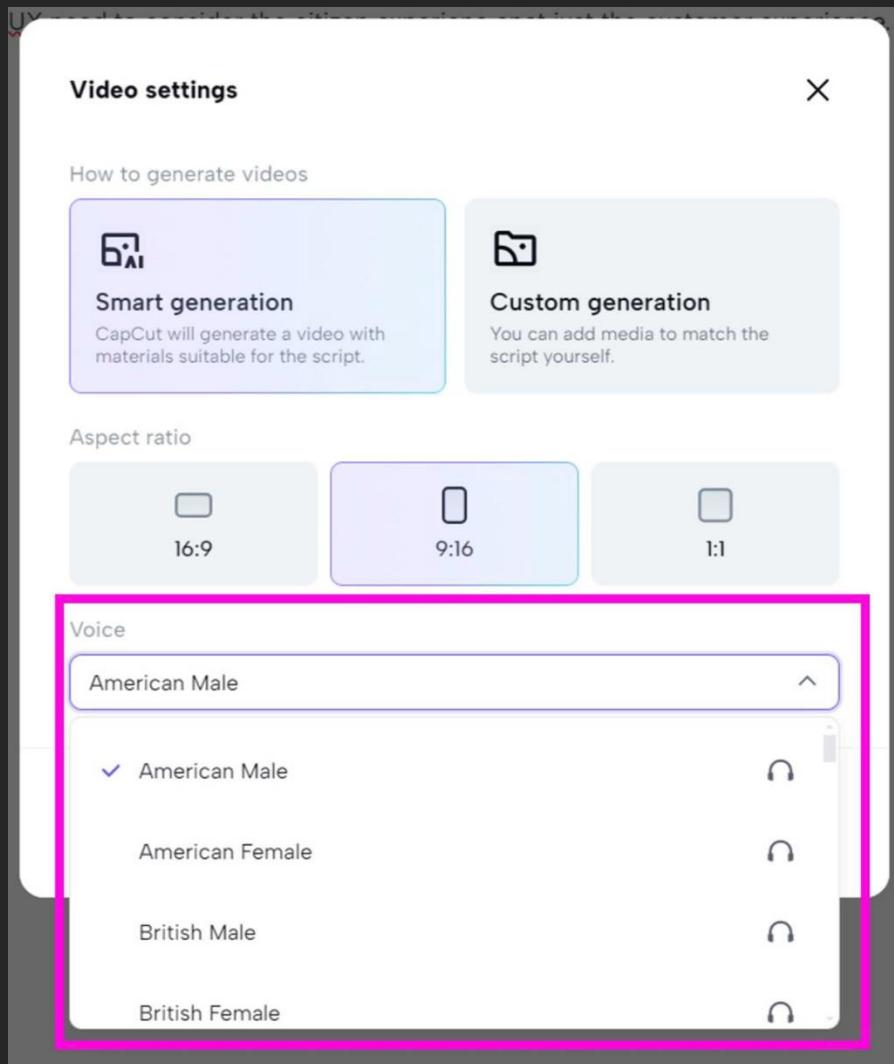
Overcoming Gender Bias
in UI Design

Design for all actors in the system

Do not exclude

- 1) Accessibility
- 2) Non-user users (*animals, insects and microorganisms*)
- 3) Diverse user group

Design for all actors in the system



AI

1. Energy consumption

Users spend a lot of energy training the models, using energy in use.

2. Change our society

Social consequences.
Business driven development.

Impair our ability to think for ourselves or be critical?

3. Bias

AI is built on a broken internet



The head
of design



A Lawyer



An Engineer



A Judge



An executive



Brain
Surgeon



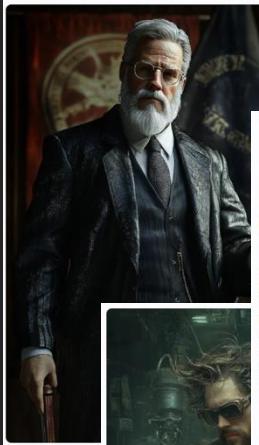
A management
consultant



A best selling
artist



A board
member



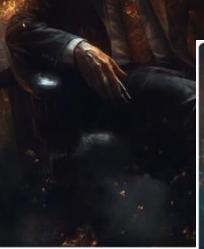
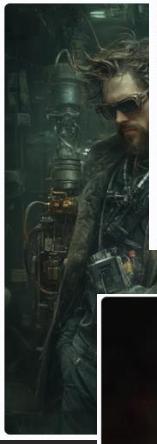
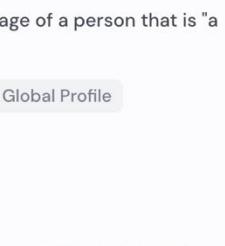
Create a realistic image of a person that is "a lawyer"

ar 2:3 profile Your Global Profile



Create a realistic image of a person that is "a board member"

ar 2:3 profile Your Global Profile



Create a realistic image of a person that is "a best selling artist"

ar 2:3 profile Your Global Profile

Create a realistic image of a person that is "a management consultant"

ar 2:3 profile Your Global Profile



Design for all actors in the system
We can do better!

Do Inclusive Design

Inclusive design address:

- Accessibility
- Age
- Culture
- Economic situation
- Education
- Gender
- Geographic location
- Language
- Race

Ethical considerations in UX

- 1. User Privacy / Ethical data**
Always prioritize user consent and transparency in data usage.
- 2. Accessibility:**
A Right, Not a Privilege
Ensures that digital products are usable by people with a wide range of abilities, backgrounds, and skill sets.
- 3. Avoiding Dark Patterns**
Be transparent and honest in your design choices.
- 4. Cultural Sensitivity and Inclusion**
Embrace diversity and ensure your designs are culturally sensitive.
- 5. Mental Well-being**
Design with mental well-being in mind.
- 6. Sustainable Design Practices**
Aim for designs that are eco-friendly and promote sustainability.
- 7. User Autonomy and Control**
Empower users with choice and control.

1. User Privacy / Ethical data

Data ethics are how a business collects, protects and uses data.

Apps also should only collect and use the information that is essential for their functionality.

Unnecessary data collection increases the risk of privacy violations and can lead to a higher likelihood of data breaches.



4. Cultural Sensitivity and Inclusion

One way to do this is conducting user testing with individuals from diverse cultural backgrounds.

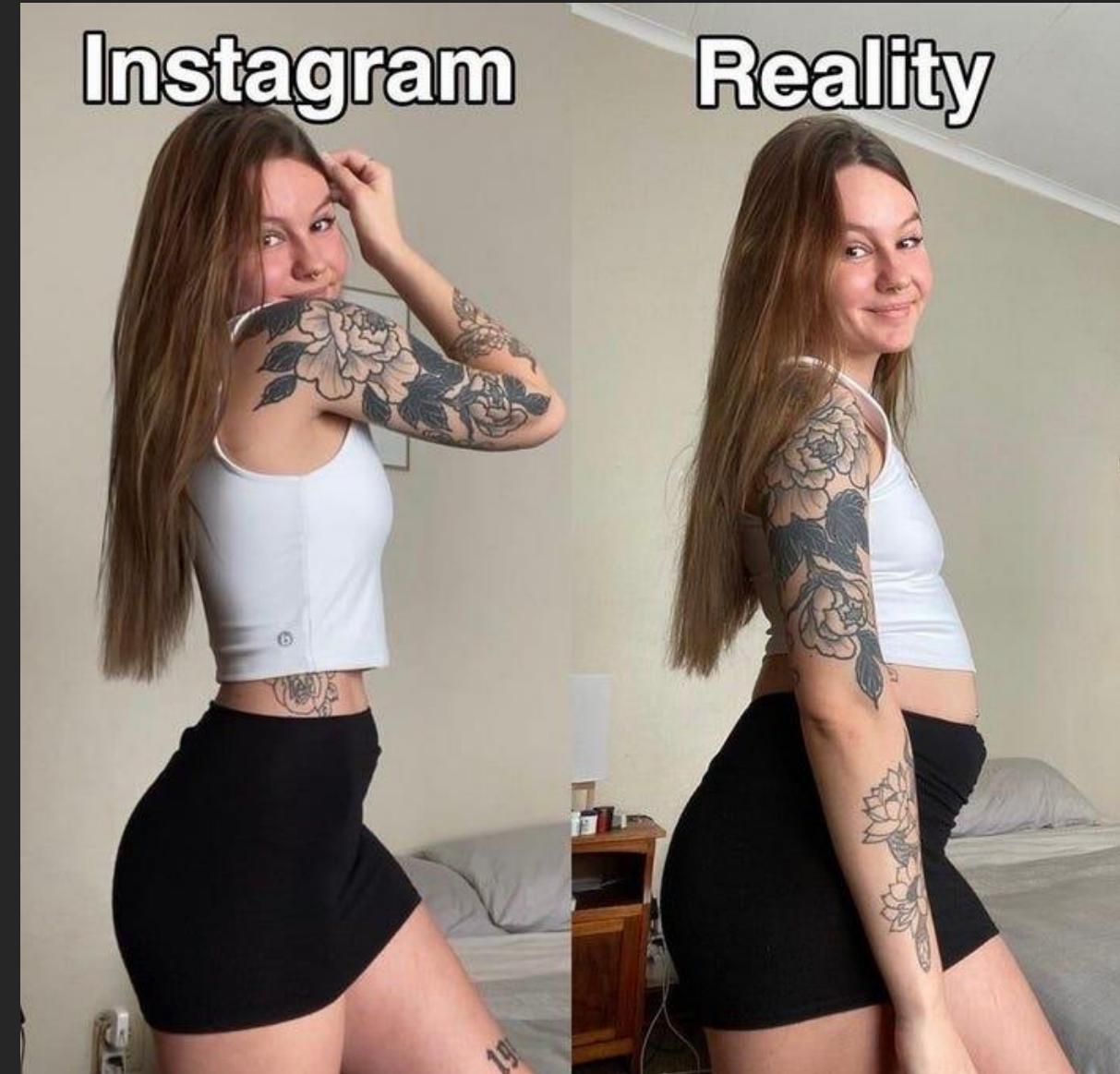
Ensuring diverse representation in design elements, such as images, illustrations, and avatars



5. Mental Well-being

Platforms like Instagram have been investigated for their impact on body image and self-esteem.

Ethical UX design should help foster positive interactions, self-awareness, and well-being.



Accessibility

Objects should be designed so that they can be used, without modification, by as many people as possible.



The four principles of accessibility

A website/app must be:

1. Comprehensible (*Understandable*)

The information and elements in the interface must be presentable to users in ways they can perceive.

2. Useful

The system and interface must be functional.

3. Understandable

The information and operation of the interface must be understandable.

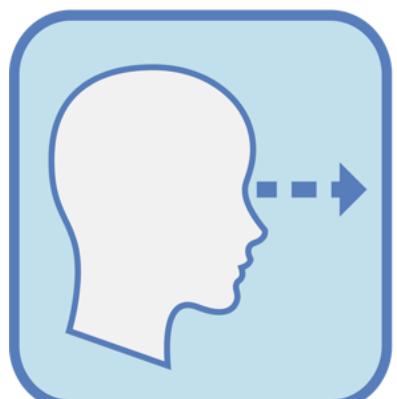
4. Robust

Most clients, including assistive technologies, must be able to interpret the content.



<https://www.w3.org/WAI/standards-guidelines/wcag/>

Typical accessibility problems



Seeing



Hearing



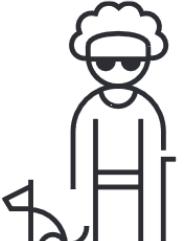
Interacting



Learning

Disability?

- Permanent
- Temporary
- Situational

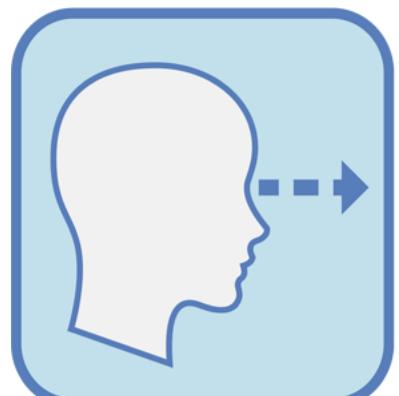
	Permanent	Temporary	Situational
Touch			
	One arm	Arm injury	New parent
See			
	Blind	Cataract	Distracted driver
Hear			
	Deaf	Ear infection	Bartender
Speak			
	Non-verbal	Laryngitis	Heavy accent

Exercise

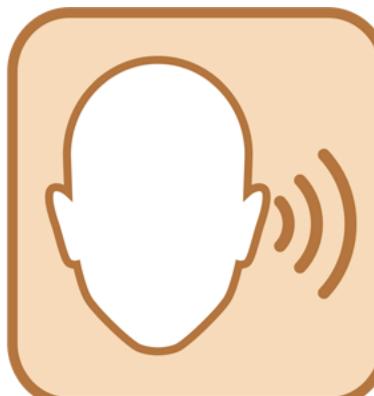
Look at these three sites:

- <https://www.lipton.com>
- <https://www.ferrari.com>
- <http://gatesnfences.com>

Consider users with disabilities!



Seeing



Hearing



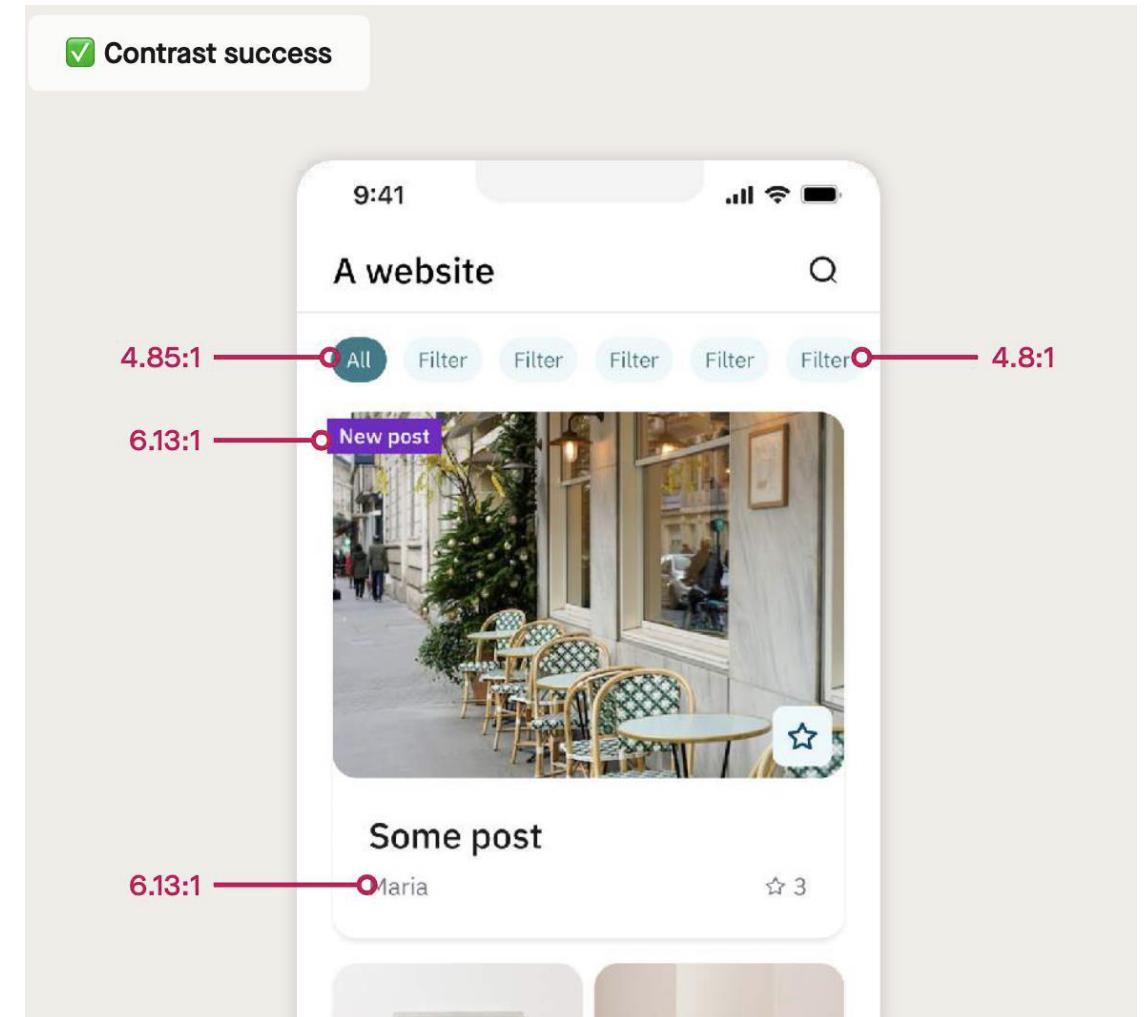
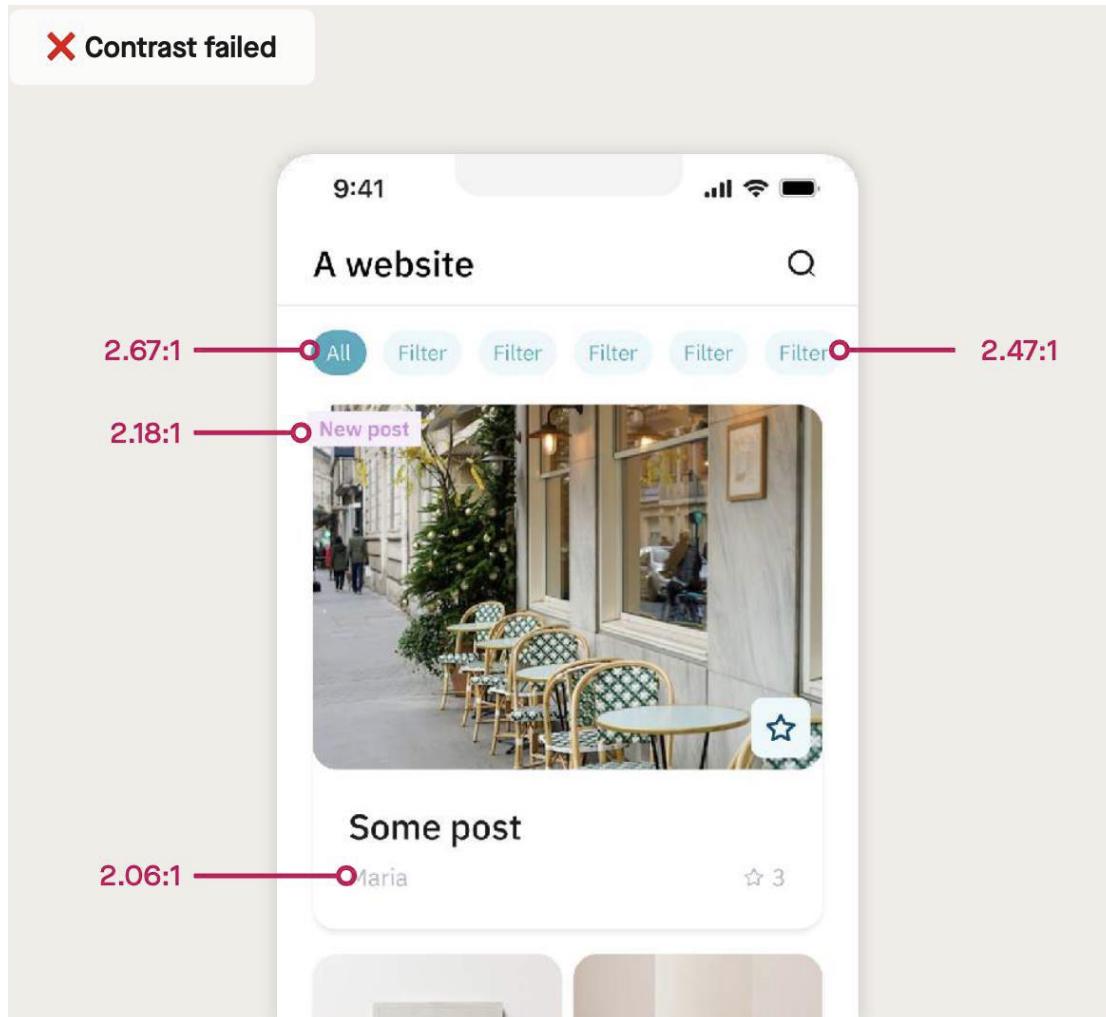
Interacting



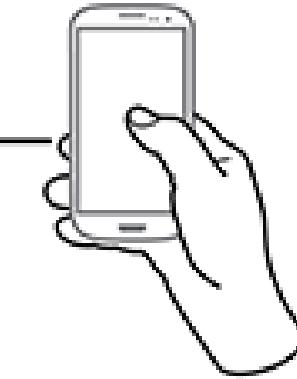
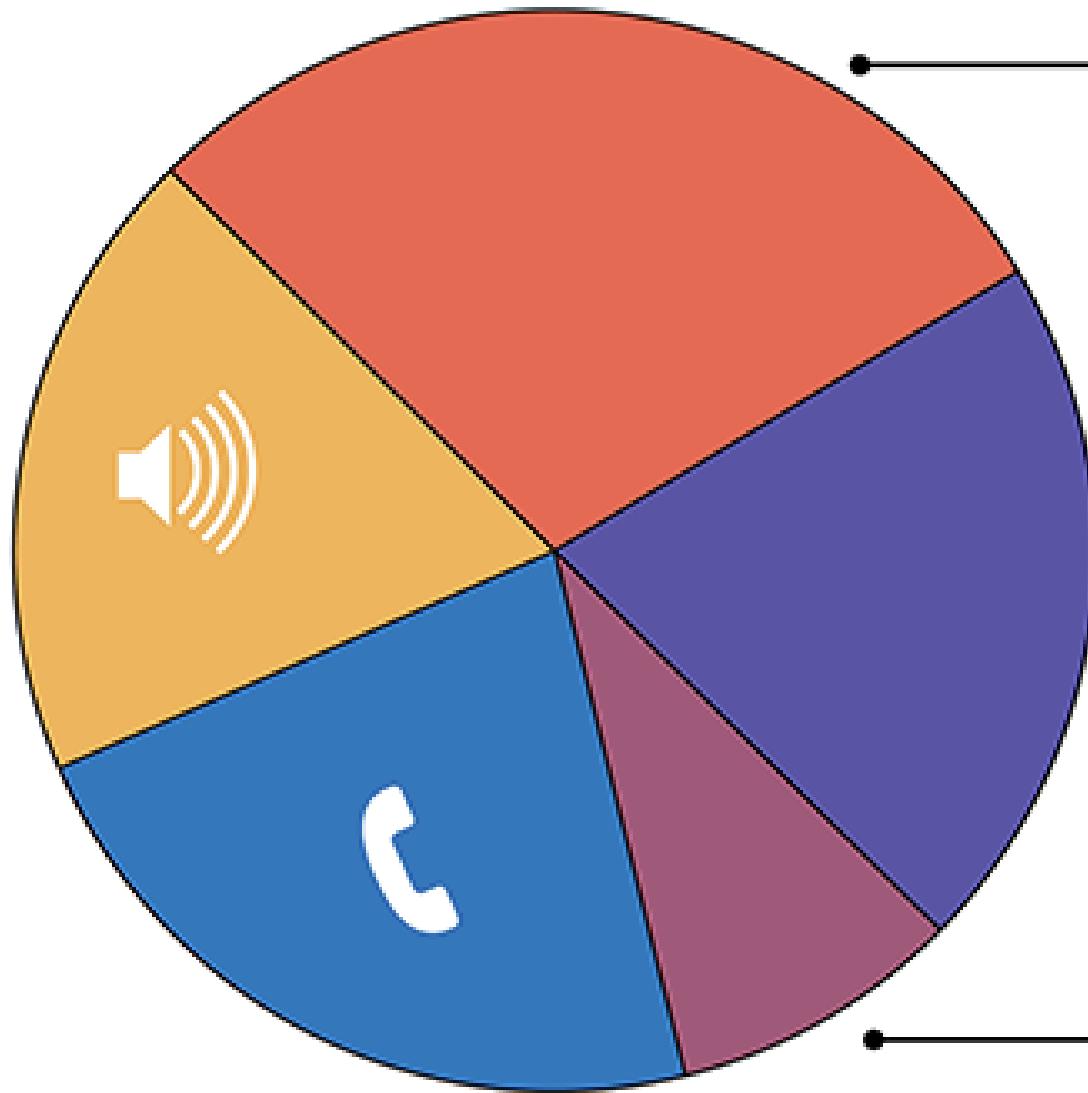
Learning

EVERY WEBSITE OWNER DREAMS ABOUT FILLING LEADING POSITIONS IN GOOGLE SEARCH RESULTS. BUT NOT EVERYBODY UNDERSTANDS THAT QUALITY AND UNIQUENESS OF YOUR GOODS AND SERVICES IS NOT THE GUARANTEE OF YOUR SUCCESSFUL AND PROFITABLE ACTIVITY. IF YOUR WEBSITE IS POORLY DONE THEN YOU HAVE NO CHANCE TO WIN IN A STRONG WEB MARKET COMPETITION.

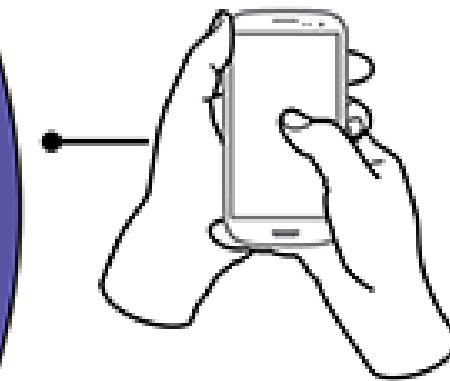
Contrast (1:1-21:1)



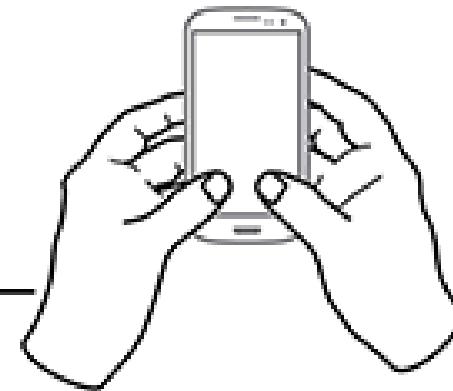
Ergonomics



49%

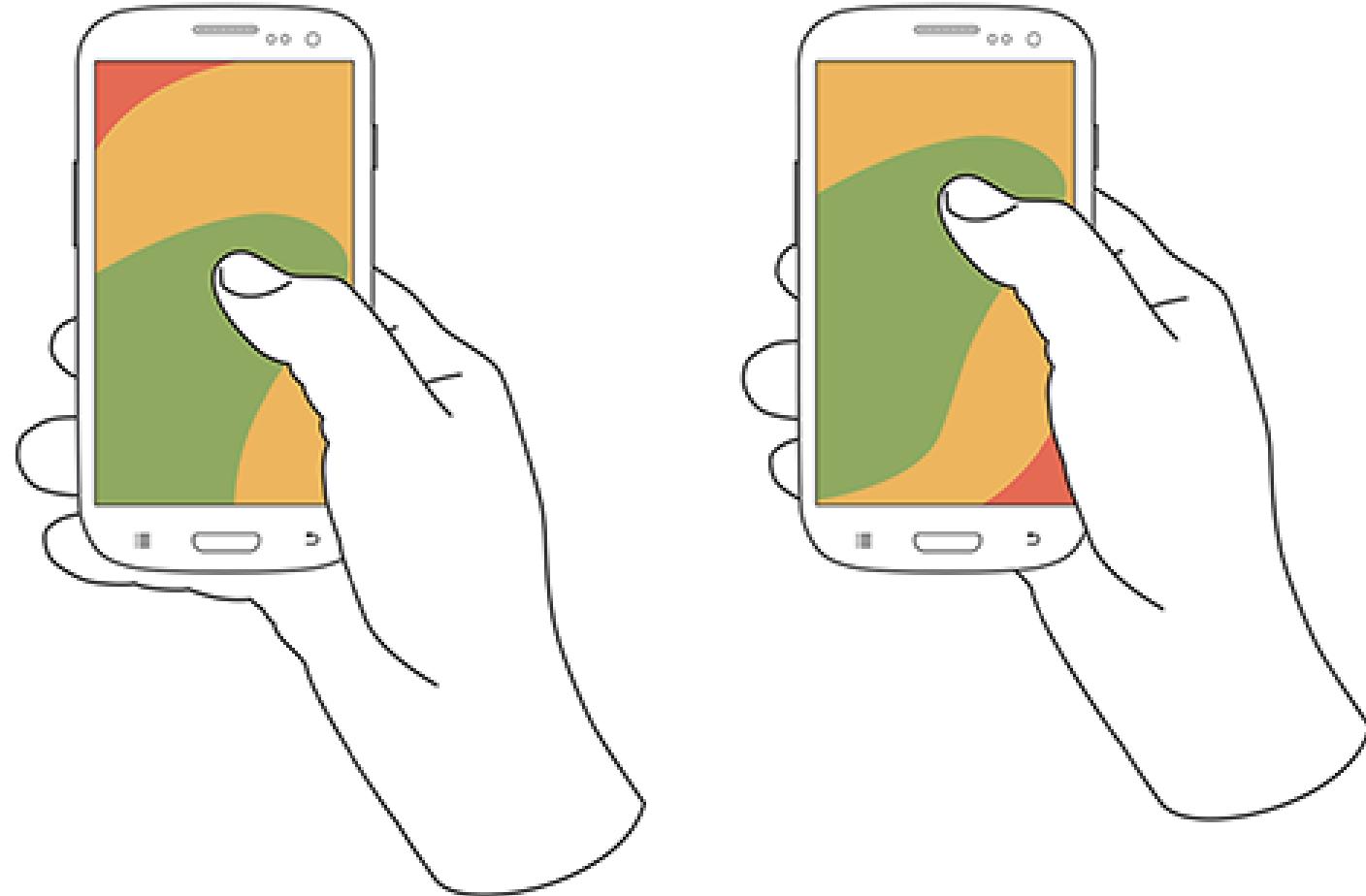


36%

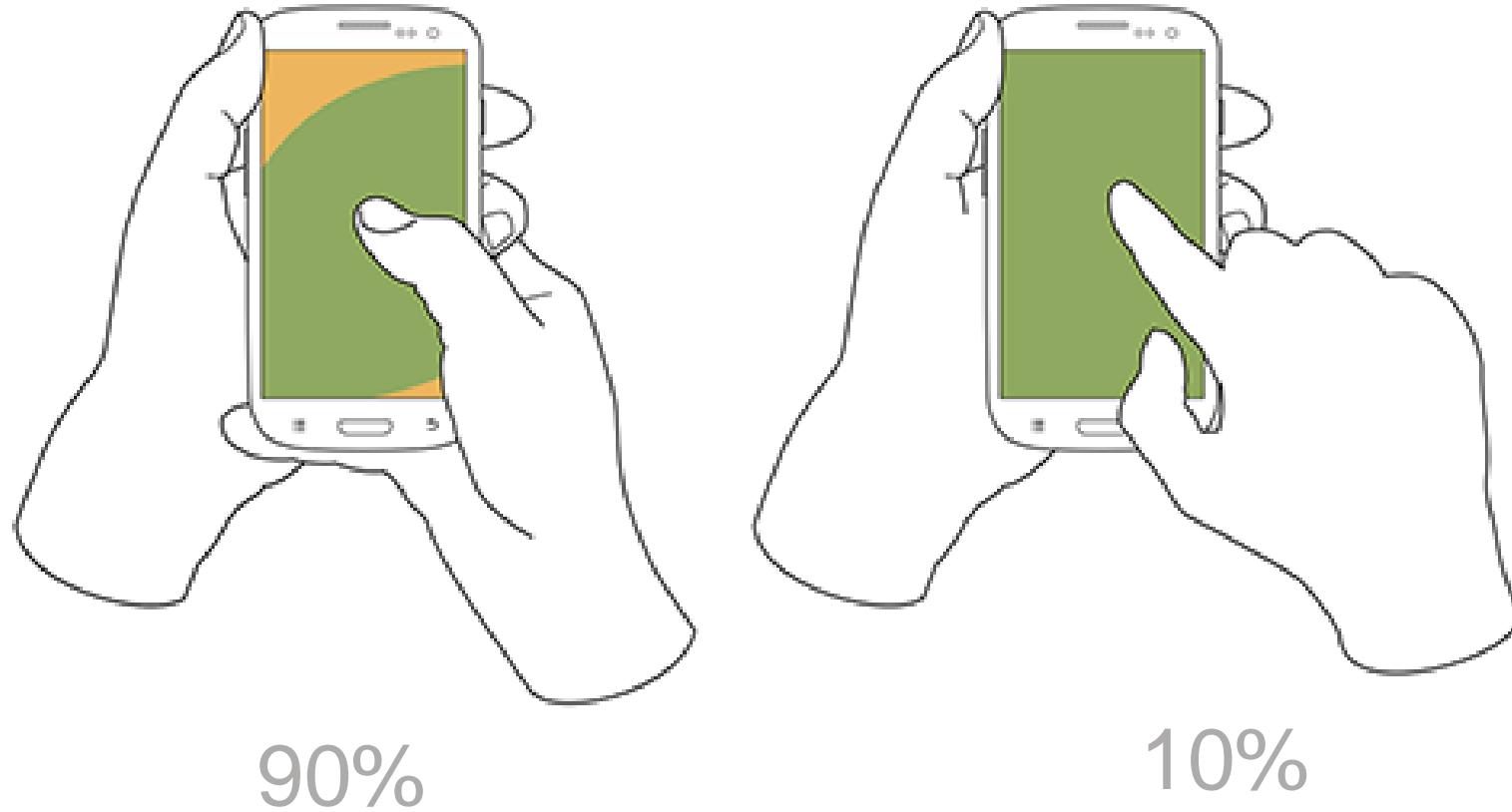


15%

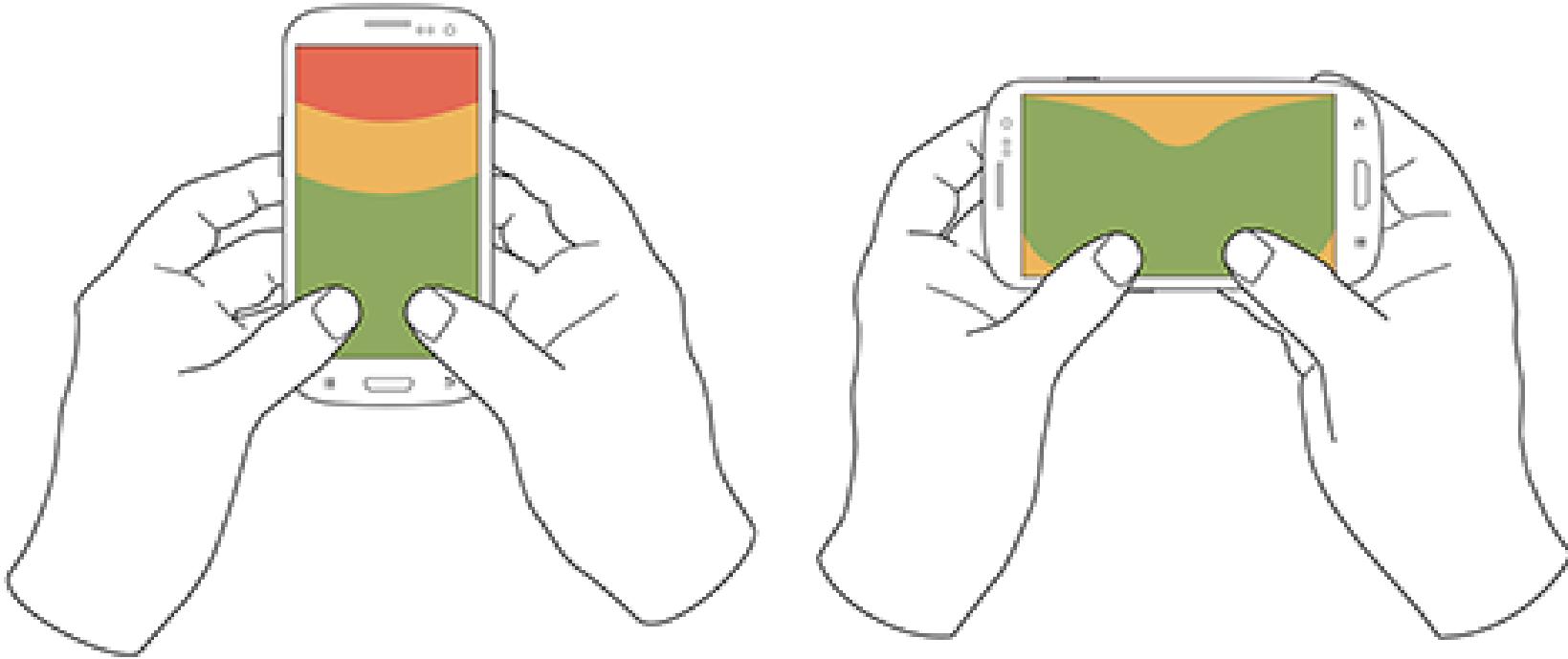
Ergonomics: One hand



Ergonomics: Two hands, one finger



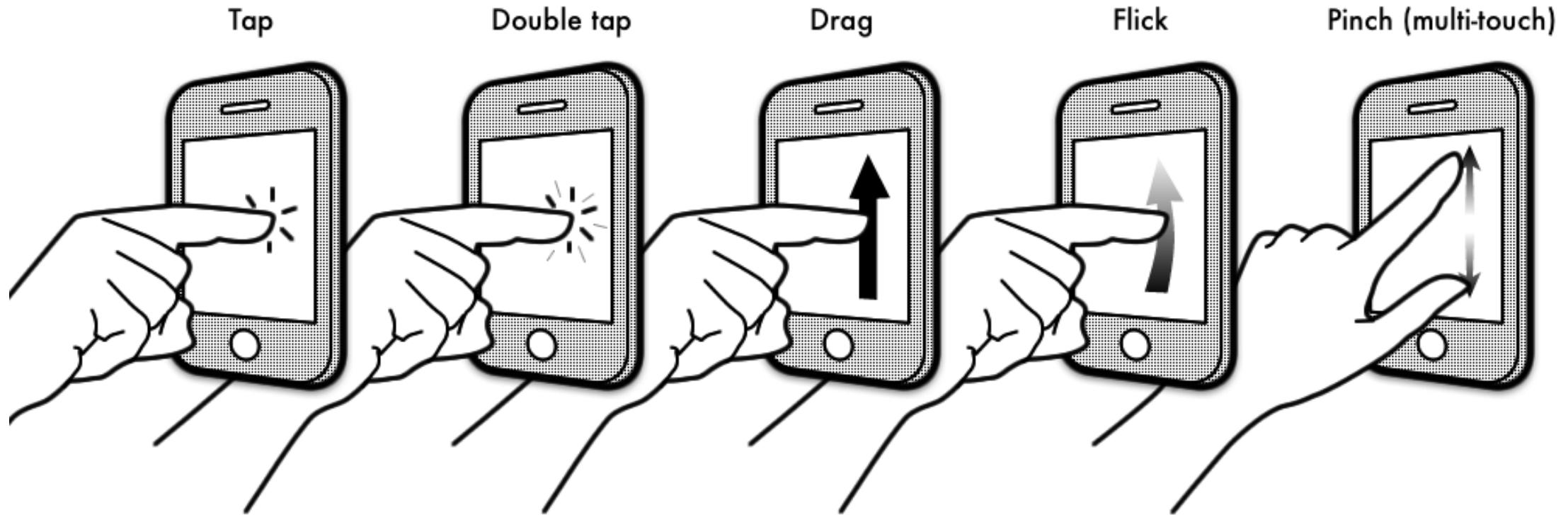
Ergonomics: Two fingers



90%

10%

Gestures



mUI cliente

Touch User Interface Input Gesture Guide

For UI designers and developers

Contains crossplatform overview of the core gestures working as touch commands, guide of gesture correlation with actions, and visual representation of gestures for better cognition

Basic Actions

Select

Tap
Briefly touch surface with fingertip



Navigation Actions

Adjust view

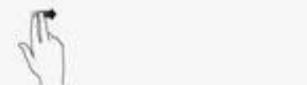
Rotate
Move fingers in circular movement



Flick
Quickly brush surface with fingertip



Move through list
Two-finger drag
Move fingertips over surface without losing contact.



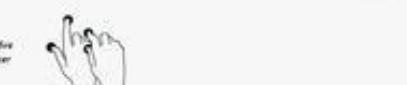
Open

Double tap
Rapidly touch surface twice with fingertip



Adjust view (zoom in)

Pinch
Touch surface with two or five fingers and bring them closer together



Press and tap

With one finger on object, touch elsewhere on surface with second finger

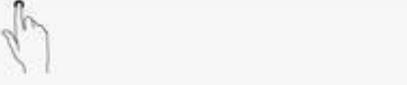


Rotate
Move fingers in circular movement



Change mode

Press
Touch surface for extended period of time



Double tap

Rapidly touch surface twice with fingertip



Scale down

Pinch or squeeze
Touch surface with two or five fingers and bring them closer together



Scroll
Drag
Move fingertip or fingertip over scrollbar without losing contact



Operation Actions

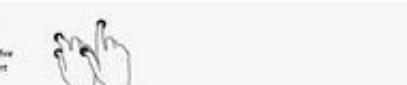
Adjust

Press and drag
Press surface with one finger and move second finger over surface without losing contact



Adjust view (zoom out)

Spread
Touch surface with two or five fingers and move them apart

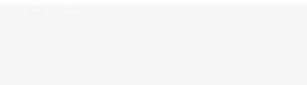


Scale up

Spread or splay
Touch surface with two or five fingers and move them apart

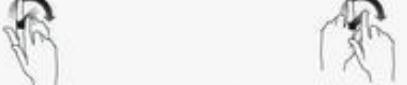


Press
Touch surface for extended period of time



Lasso and cross

Hold circular motion with finger, then cross over selected object



Double tap

Rapidly touch surface twice with fingertip



Sign Actions

Accept

Draw a checkmark on surface with fingertip



Scroll fast
Flick
Quickly brush surface with fingertip



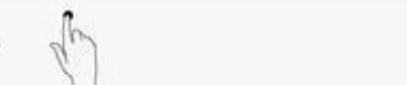
Bundle

Press and tap, then drag
Touch first object while second finger taps other objects, then move selected objects by dragging first finger



Display commands

Press
Touch surface for extended period of time

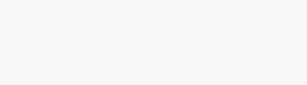


Cut

Draw a slash on surface with fingertip

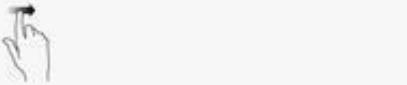


Tap
Briefly touch surface with fingertip



Delete

Drag (across item or off-screen)
Move fingertip over surface without losing contact



Press and tap

With one finger on object, touch elsewhere on surface with second finger



Get help

Draw a question mark on surface with fingertip



Scrub
Drag
Move fingertip or fingertip over scrollbar without losing contact



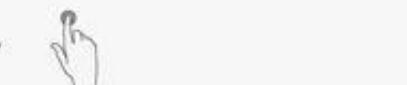
Duplicate

Tap (source and destination)
Touch object, then touch elsewhere on surface



Double tap

Rapidly touch surface twice with fingertip

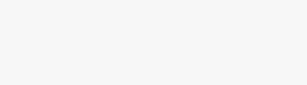


Reject

Draw an "X" on surface with fingertip



Undo
Scratch out area on surface with fingertip



Move

Drag (and drop)
Move fingertip (fingertip) over surface without losing contact



Tap

Briefly touch surface with fingertip



Credits
This chart is a rework of the "Touch Gesture REFERENCE GUIDE" paper by Luke Wroblewski et al.
Please see the original paper, original research and supportive materials at <http://www.lukew.com/ff/matrix.aspx>.

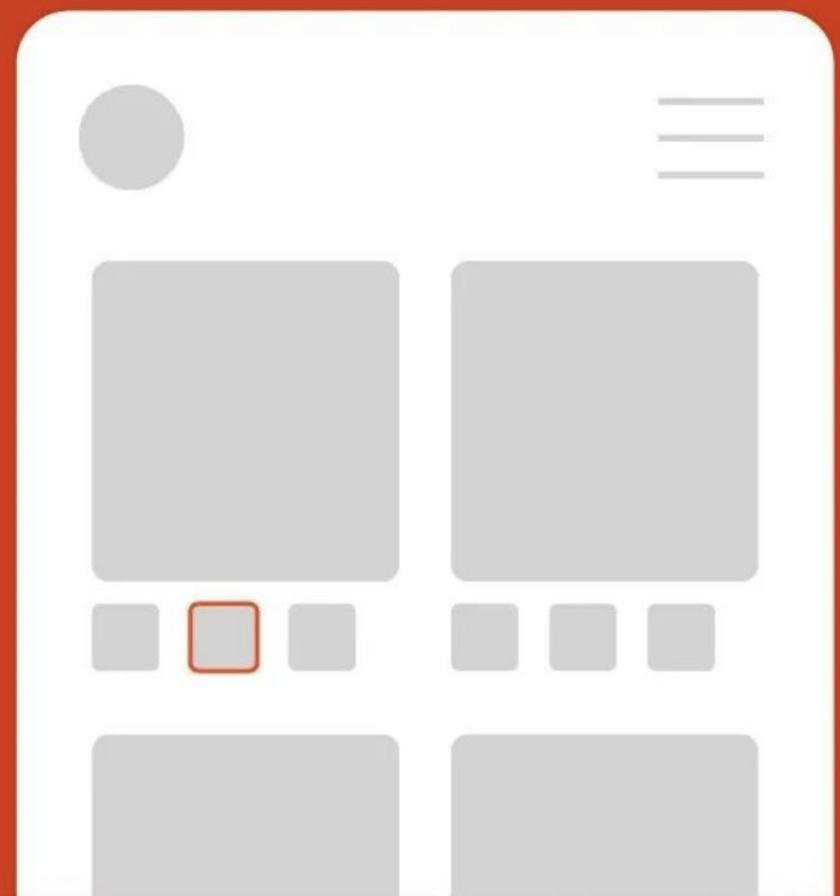
Get the free pdf of this graphic at <http://302111.cc/pdf/muiclientes.pdf>.
For questions and comments use 302111.cc



Design for touch screens

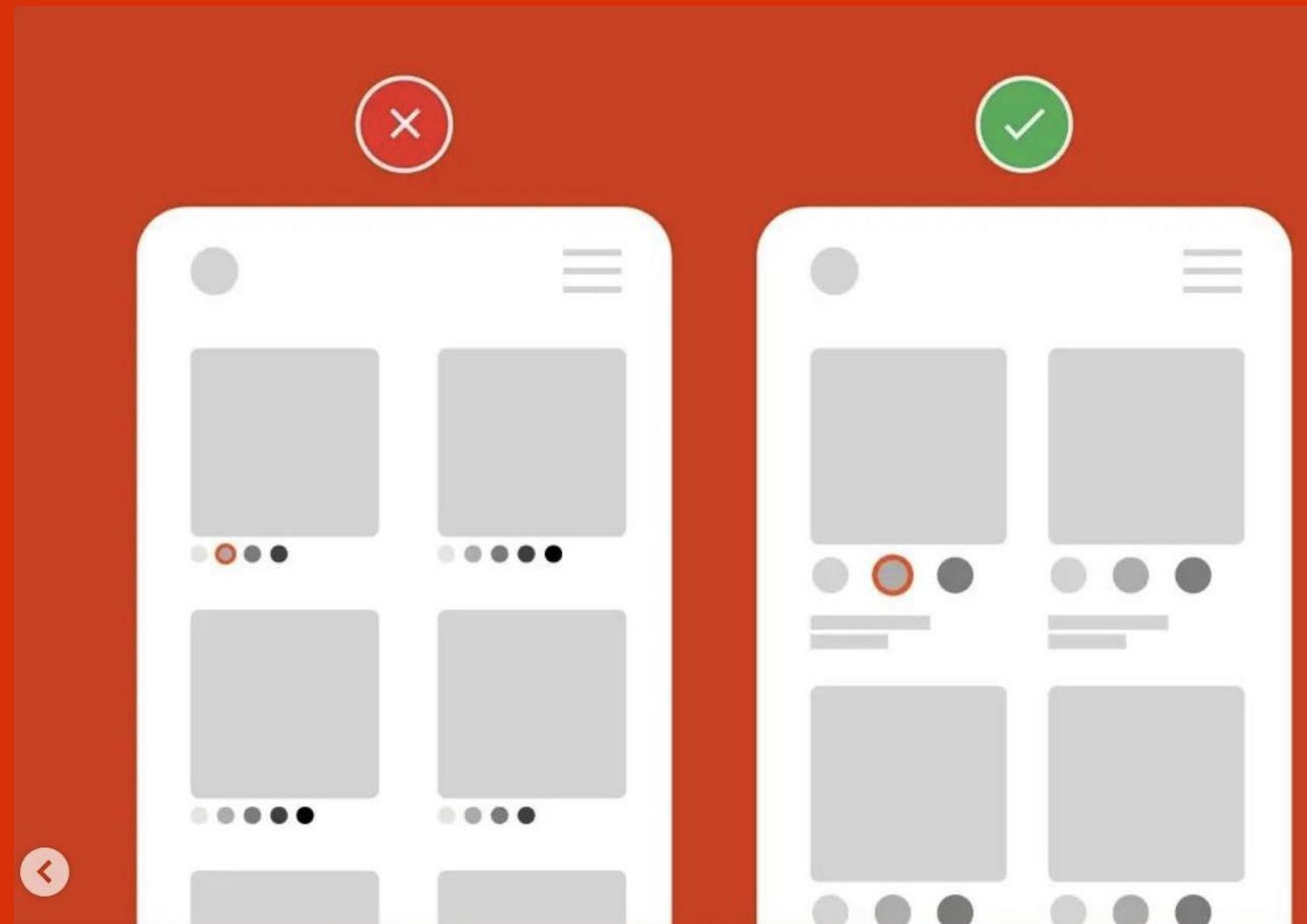
The 1cm rule: A touch target should be at least 1cm (0.4in)

0.4in



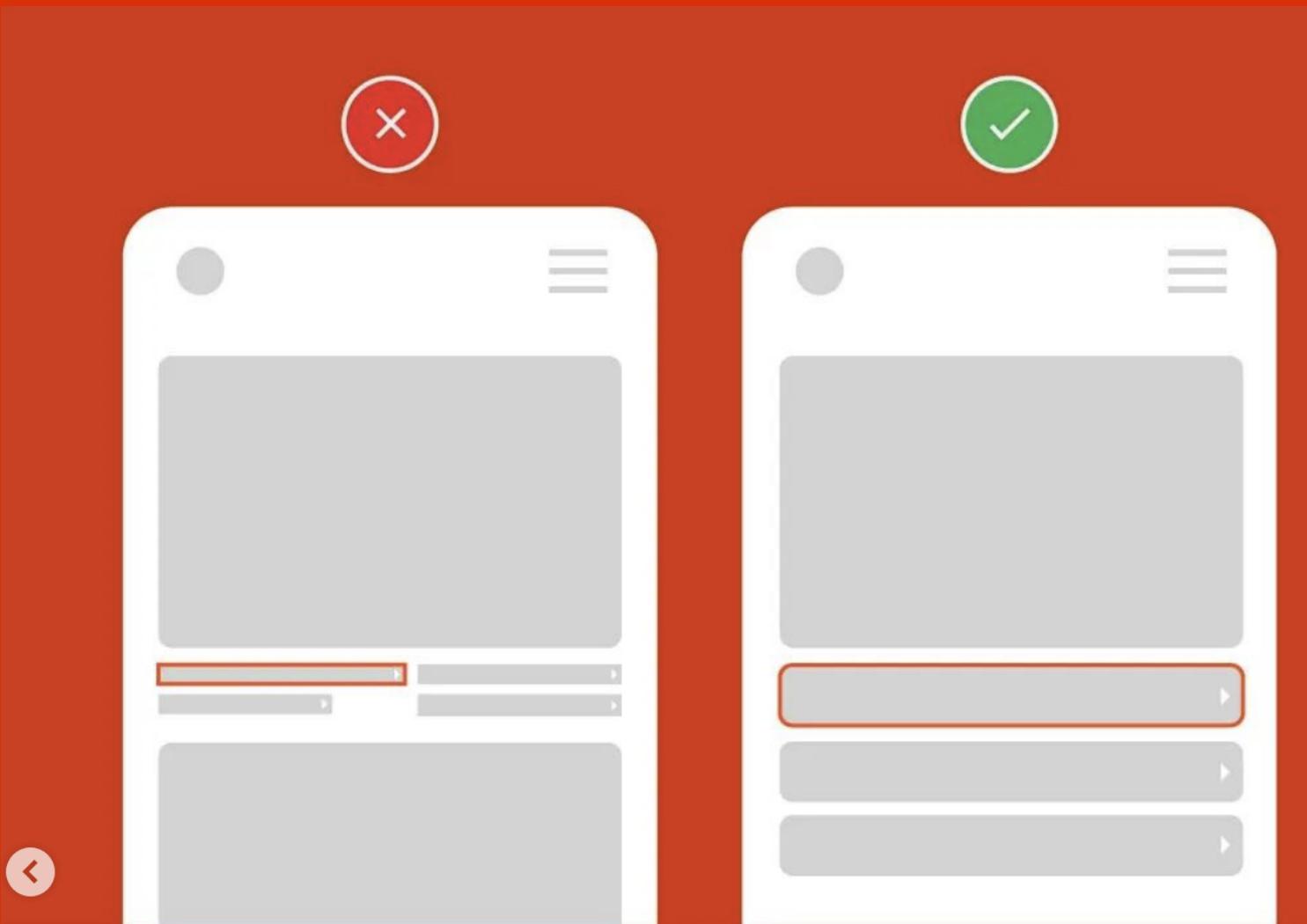
Design for touch screens

It's not enough to be able to see it – you also have to be able to hit it!



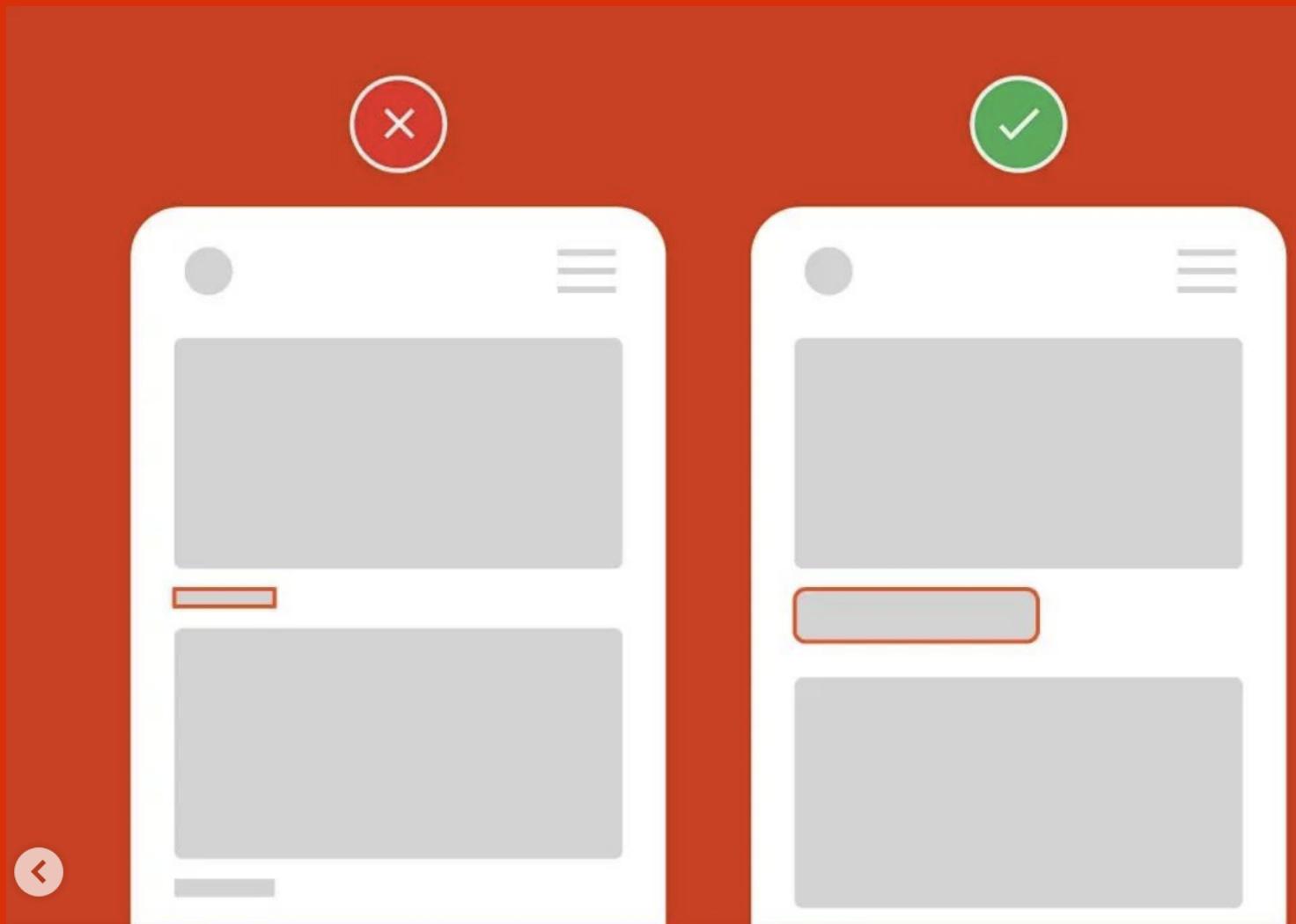
Design for touch screens

Crowded interfaces cause users to make mistakes



Design for touch screens

1cm is the minimum, but bigger is often better

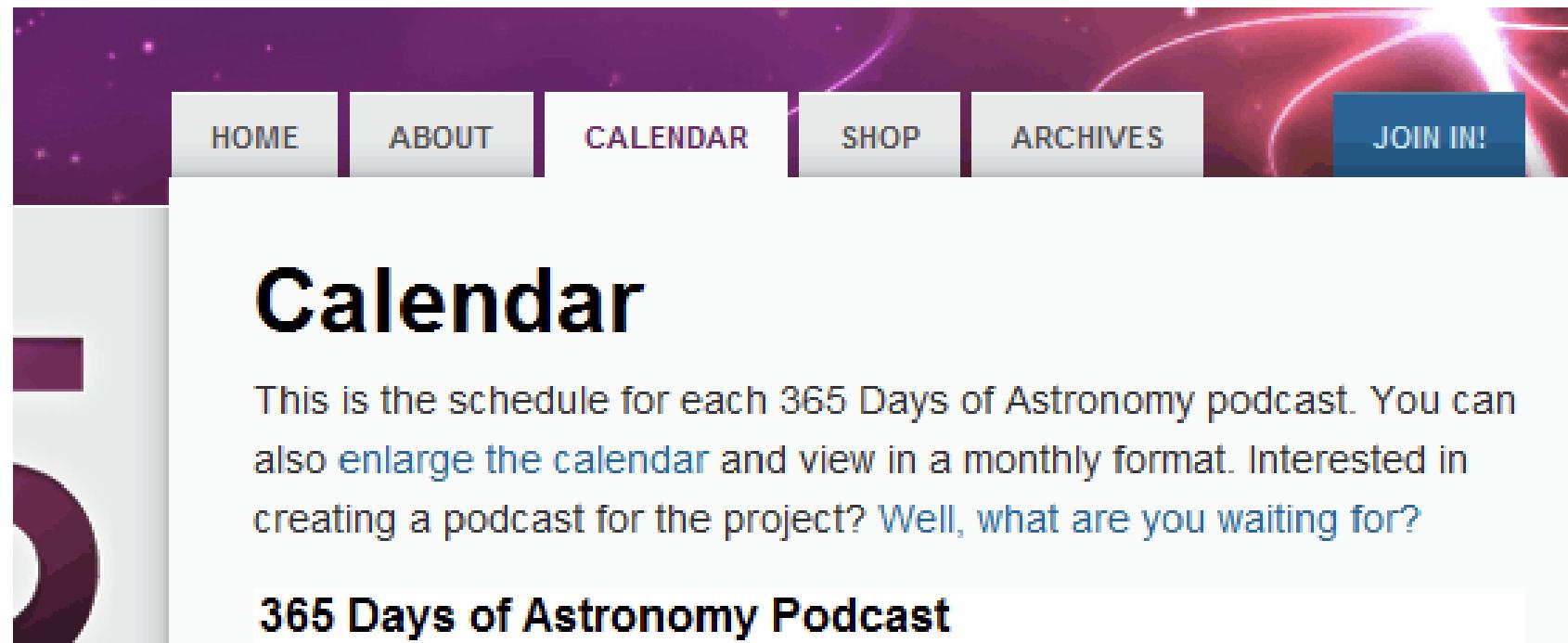


Who is responsible for good accessibility?

- The (ux) Designer: Layout, Structure, IA, Experience, Testing
- The Developer: Code, Functionality
- The Editor: Content

The designer and accessibility

- Create responsive layouts
- Don't make text as graphics
- Create clear font hierarchy
- Make sure [links](#) are clear
- Support wayfinding (*use breadcrumb trails, highlight menu items, etc.*)



The developer and accessibility

- Use semantic HTML
- Use CSS for layouts and styling
- Define language
(meta tag or `<html lang="da">`)
- Don't use tables for anything
other than table content
- Use labels for forms

The image displays two side-by-side snippets of a form interface, separated by a vertical grey line. Both snippets feature a question in orange text followed by two radio button options and a text input field, all contained within a light grey box. A yellow 'Sign in using our secure server' button is at the bottom.

Target area without <label>

Do you have an Amazon.co.uk password?

No, I am a new customer.
 Yes, I have a password:

Sign in using our secure server

Target area with <label>

Do you have an Amazon.co.uk password?

No, I am a new customer.
 Yes, I have a password:

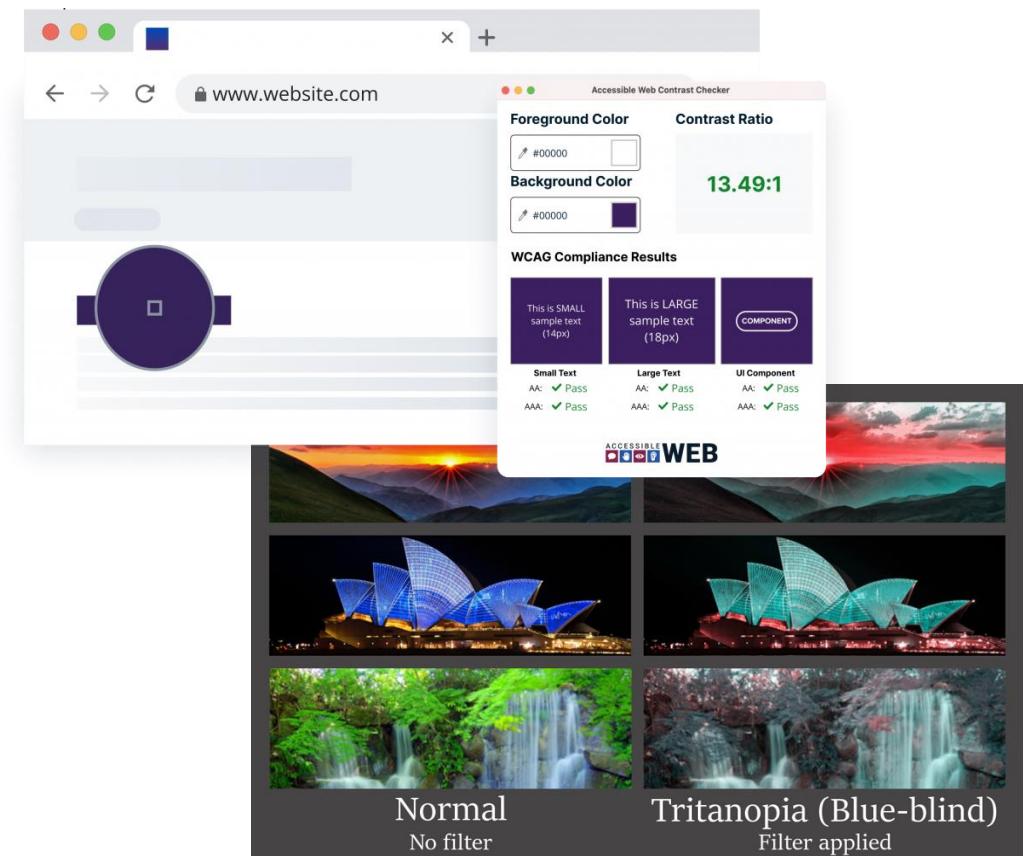
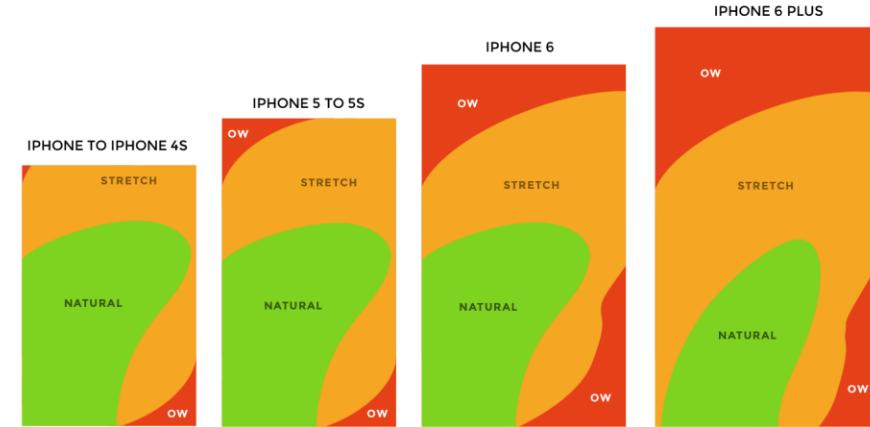
Sign in using our secure server

The editor and accessibility

- Follow the designer's guidelines
- Remember alt attributes on images
- Highlight the page structure with appropriate headings
- There is a difference between paragraphs `<p>` and line breaks `
`
- Write [meaningful link texts](#) instead of [click here](#)
- Write concise and understandable language
- Offer alternatives to audio and video

Tools

- **Thumb zone mapping template**
<https://www.scotthurff.com/posts/how-to-design-for-thumbs-in-the-era-of-huge-screens/>
- **Contrast Checker**
<https://webaim.org/resources/contrast-checker>
- **Testing the accessibility - Wave**
browser extension
<https://wave.webaim.org/extension>
- **Simulate color blindness** (browser extensions)
Google: "Colorblindly"
Firefox: "Let's get color blind"



Part 2: Sustainability (Social, Ethics, Accessibility)

Focus: Ethics, Accessibility, and Inclusion

1. Define/Find a New Persona

Choose a relevant persona for your campaign site. This can be a traditional user, but you are encouraged to reflect on social sustainability by selecting a persona with specific accessibility, inclusion, or equity-related needs.

2. Test Your Accessibility

- Evaluate your landing page using these tools:
- Document your testing with screenshots and notes:
 - What did you discover?
 - What did you change based on the results?

3. Responsive & Inclusive Design

Update your landing page to ensure it is responsive and usable for all – across devices, screen sizes, and user contexts.

You must also extend your page with a NEW form designed to collect user data ethically and accessibly.

Your page should now:

- Be responsive across mobile, tablet, and desktop
- Follow thumb ergonomics for mobile use
- Use accessible structure (headings, alt text, semantic HTML)
- Avoid visual clutter
- Use clear, meaningful link texts
- Include a form with:
 - Accessible labels and inputs
 - Logical tab order
 - Easy error handling and feedback

4. Deliverables

Complete or update the Sustainable UX Canvas with a specific focus on:

Case - Part 1: CO₂ & Environmental Sustainability (*The Visible and Invisible Impact*)

In the first part, you will design and develop a one-page HTML/CSS campaign site that takes their assigned non-human persona into account.

The site should reflect sustainable digital design principles by considering both visible and invisible environmental impacts.

Requirements:

- CO₂ Optimization: Minimize energy consumption through optimized code, compressed assets, and efficient design choices.
- The Visible Impact: Reduce heavy visuals and resource-intensive elements while maintaining strong visual communication.
- The Invisible Impact: Implement technical optimizations such as lazy loading, caching, and reduced HTTP requests.
- Non-Human Persona Integration: The campaign should communicate the needs and challenges of the assigned persona in a way that engages users and promotes sustainable choices.

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3. Deliverables

Complete or update the Sustainable UX Canvas with a specific focus on:

Part 3: Deceptive patterns – You are the UX devil ;)

The world is burning — literally. The company is out of money, users are disappearing, and management is panicking.

Your new mission:

Twist your ethical, sustainable campaign into a manipulative dark UX experience.
Remember to keep the original campaign site.

You must:

- Use deceptive patterns to generate more signups, data, or engagement.
- Exploit fear and urgency: “Without your help, we all die!”
- Keep the surface visually green and sustainable — but design with underlying pressure and manipulation.
- Balance persuasive design with deceptive tactics.

Each group must:

- Use examples from at least 2 different deceptive pattern groupings (e.g. Manipulated Choices + Artificial Pressure)
- Show how you would implement them in your existing campaign site (still HTML/CSS).

Part 4: Delivery + Presentation

- The sustainable UX model Canvas
- A screenshot on how - “Green” your page is (<https://digitalbeacon.co/> <https://ecograder.com/>)
- A link (working) to your campaign website

The Presentation

Imagen that the presentation is for other UX designers

- Short introduction to your campaign + personas
(What is the problem you want to solve and what is your UX/design-approach)
- Present your sustainable UX model and your focus/arguments should be on what and why.
- Show us how Co2 minimal your website is
 - aim for a high scorer... like the grade A
- Accessibility test result of your
- How do you do Inclusive Design!
- Your dark (campaign)site and what you have focus on

The background of the slide is a photograph of a dense forest. The trees are mostly tall, thin evergreens, creating a dark green texture across the frame. Some sunlight filters through the canopy, creating bright highlights on the tops of the trees and casting shadows on the forest floor.

Sustainable UX design

Web.

Jeppe Stockmar, 2025

As individuals, we must make sustainable decisions every day, but as designers, we can make a sustainable decision that has a positive impact every time a user uses our product.

Sustainable UX is both
environmental and
social sustainability

Week 12

- Intro to Sustainable UX focus on the environmental
- Intro to the Sustainable UX and other tools
- Non-Human Persona
- Case - part 1

Week 13

- Intro to Sustainable UX focus on the Social, Ethical Design and Deceptive design
- Case - part 2

The background of the image is a dense forest of tall evergreen trees, likely pines or firs, with their characteristic needle-like leaves. The trees are packed closely together, creating a dark green, textured pattern across the entire frame.

Why is it important for
us as designers?

Environmental sustainability in digital design

1: CO2 emissions

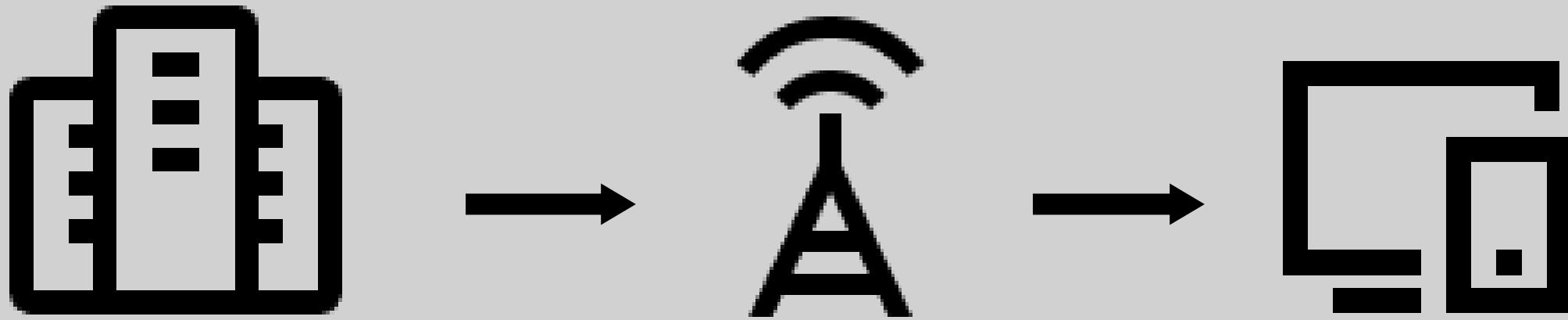
The Internet and connected devices **account for** around 3.7% of global CO2 emissions, which is more than the airline industry (2.4%)

2: Non-renewable energy

Global **internet usage consumes around 6.2%** of the world's power supply. Which is a problem, since **only 29%** of the global electricity supply comes from renewable sources

How does the internet use electricity?

How does the internet use electricity?



Datacenter

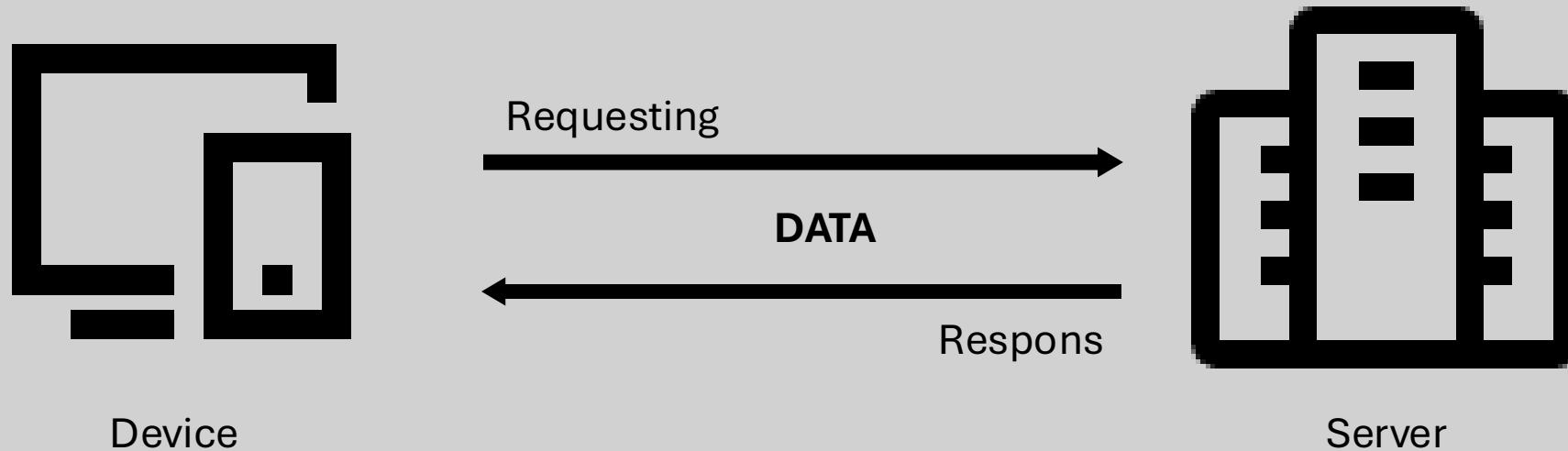
Data Transport

Power to device

2 & 2
2 min talk

How do our digital products emit CO₂?

How do our digital products emit CO₂?



Digital is
also physical

One email emits between 0.03 - 26 g CO₂
241 million emails are sent every second

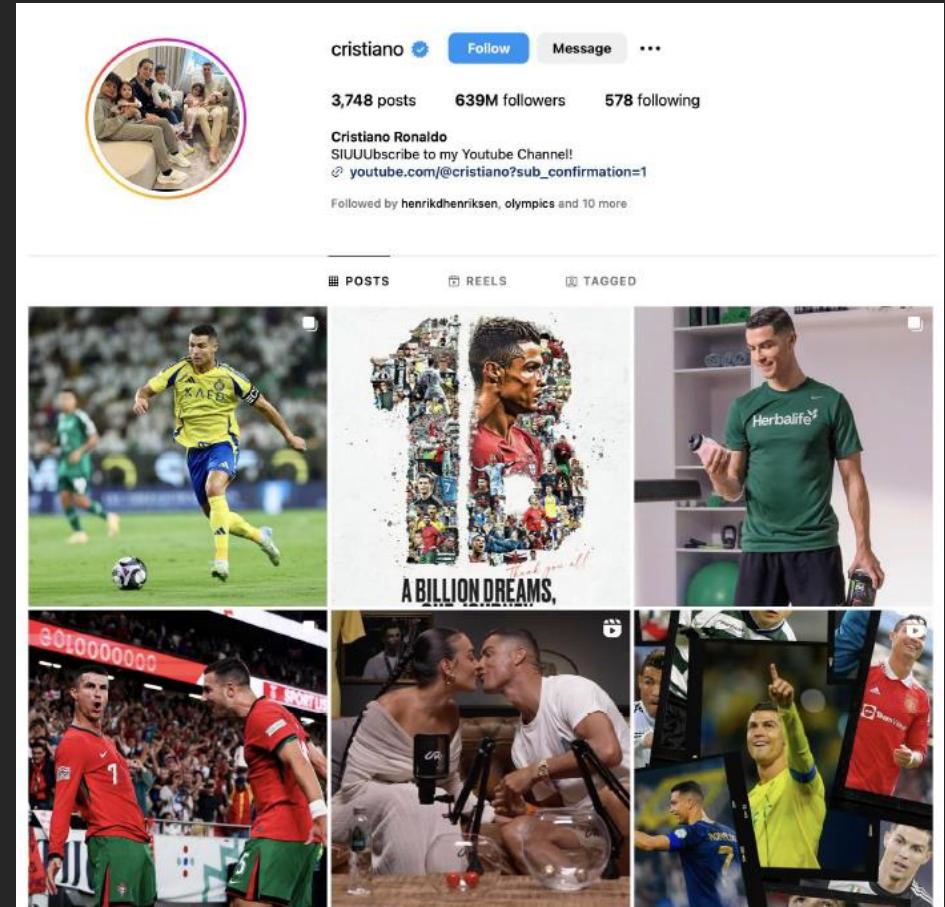
One email emits between 0.03 - 26 g CO₂
241 million emails are sent every second

32 million trees as compensation

Cristiano Ronaldo

2020: 240 million followers

1 post = uses the same amount of energy as 10 households in 1 year



Source:

https://twitter.com/C4Dispatches/status/1328413419649851392?ref_src=twsrctfw|twcamp|weetembed|twterm^1328413419649851392|twgr^7c8febb96e90e3d45bc4f14e0597d34494e893b|twcon^s1_&ref_url=https://www.gosports.com.my/news/high-energy-one-ronaldo-instagram-post-consumes-as-much-power-as-ten-households/ - East London university,

<https://www.unilever.com/news/news-search/2023/how-social-media-is-helping-people-make-the-switch-to-sustainability/>

The background of the image is a dense forest of tall evergreen trees, likely pines or firs, with their characteristic needle-like leaves. The trees are packed closely together, creating a dark green, textured pattern across the entire frame.

**From UX to
Sustainable UX**



**Design to
save energy**

VIDEO

Design to save energy

- 1. Shorten, replace or avoid**
- 2. Show only on request - don't autoplay**
- 3. Lower resolution**
- 4. Choose the best format (WebM, MP4 or GIF)**

VIDEO

Design to save energy

1 sec video = 10 images = 50.000 words

IMAGES

Design to save energy

- 1. Replace or avoid**
- 2. Choose the best format (JPEG, SVG, PNG)**
- 3. Lazy Loading**



SparEnergi.dk

SparEnergi
Energistyrelsen

Varmepumpepuljen er åben. Gå til ansøgningsportalen | Gå til selvbetjening | Se driftstatus
Energirenoveringspuljen er åben. Gå til ansøgningsportalen og selvbetjening

Spar energi, penge og CO₂ derhjemme

Vi hjælper dig med at spare strøm og varme på alt fra opvask til opvarmning og ombygning.

Spar energi i hverdagen

A woman is watering a small wind turbine plant in a pot.

Du er her: Forbruger

SparEnergi.dk

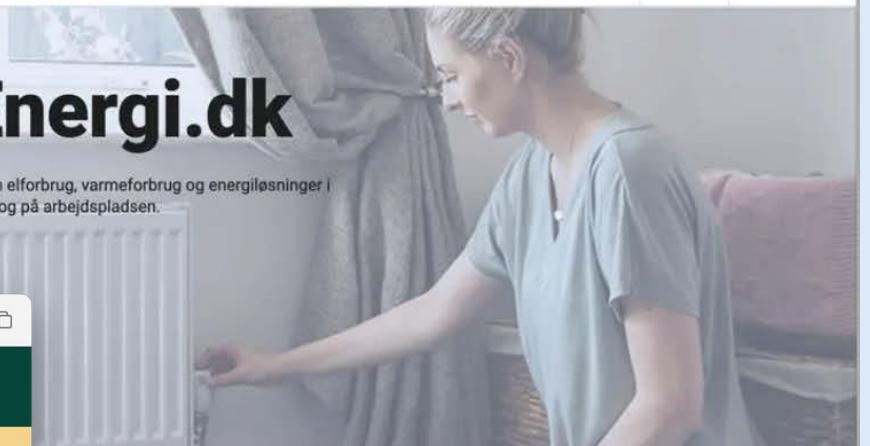
Energistyrelsens hjemmeside om elforbrug, varmeforbrug og energiløsninger i hjemmet og på arbejdspladsen.

Hvor kan du
øjegning?

dan du kan spare og se, om du kan få den anden økonomisk støtte.

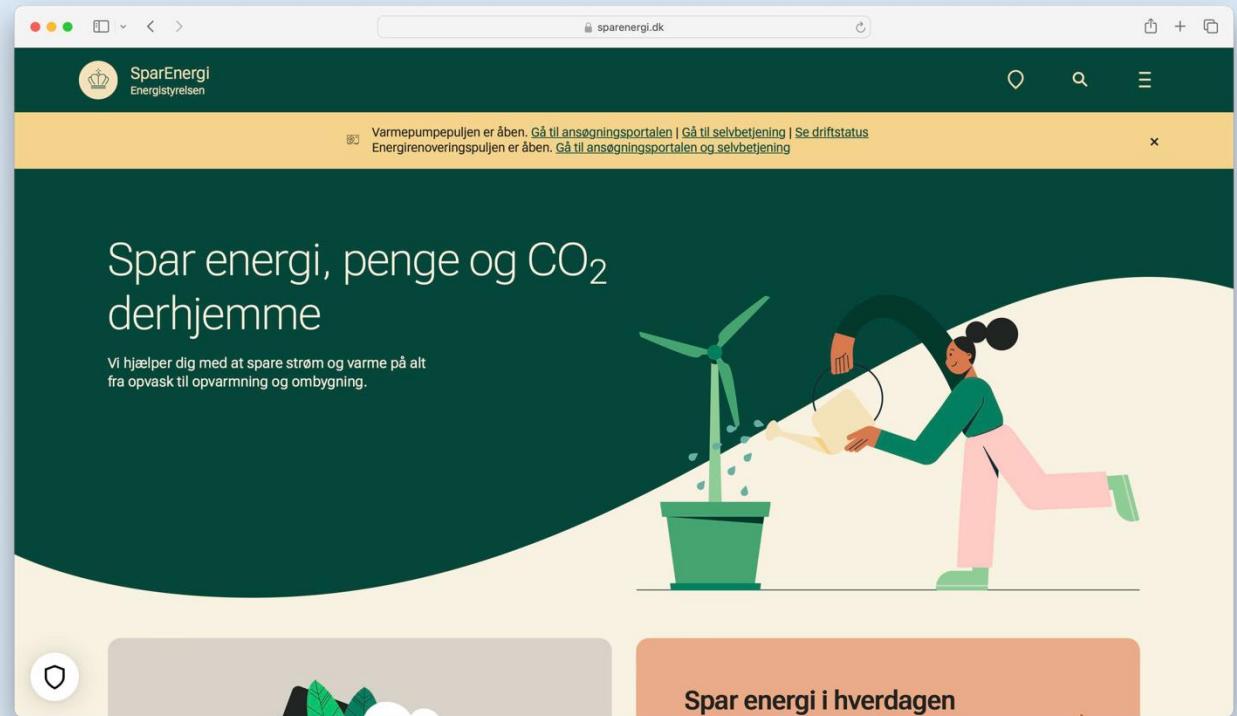
Ejelighed

Sommerhus



Reduce page weight

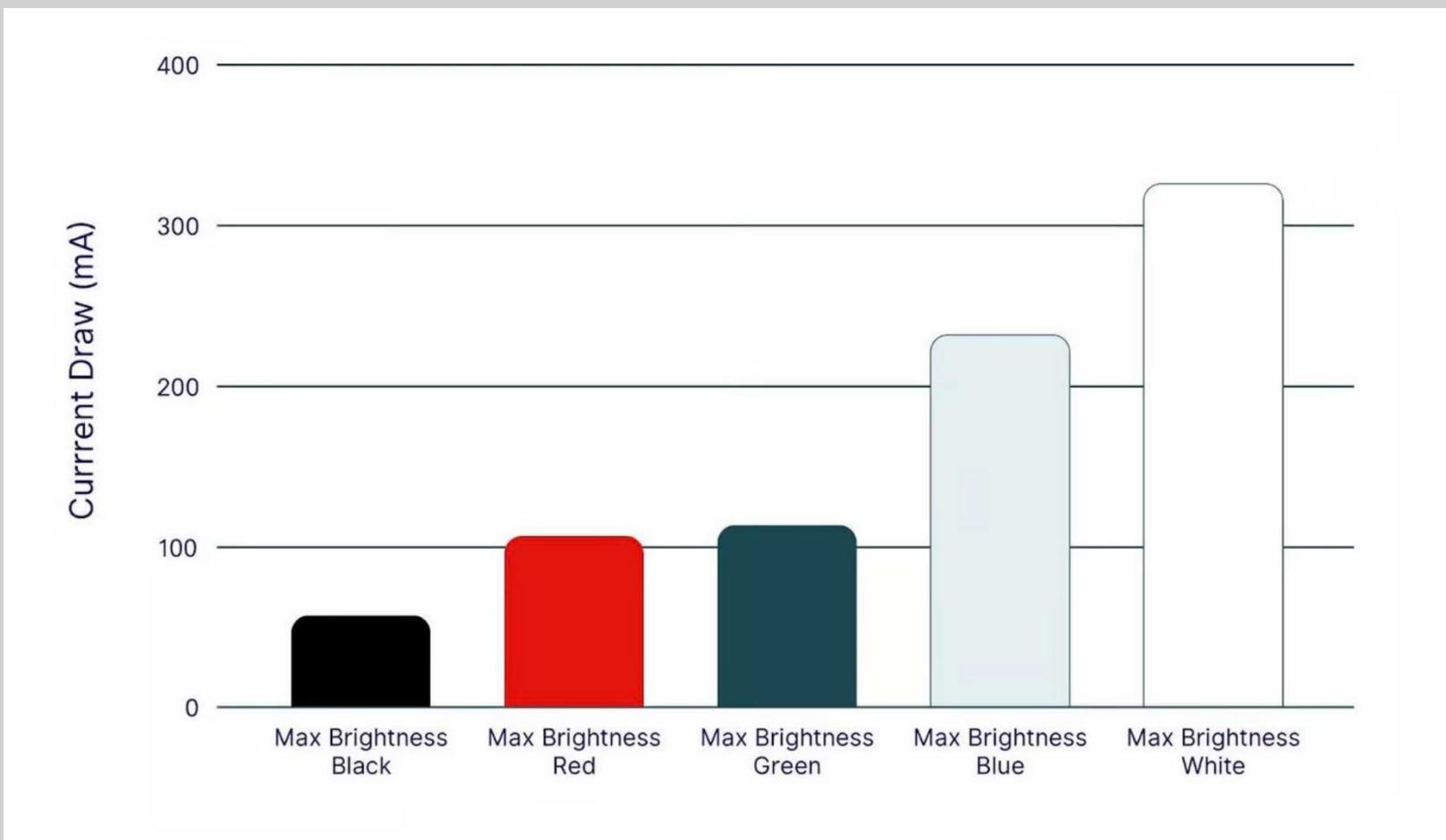
- 1. Reduce number of pages
2013 -> 300**
- 2. Replace images and videos**
- 3. Colour choice**



Colors

Design to save energy

- 1. Use dark shades (Dark mode)**
- 2. Use red and green shades instead of blue**



UX and IA

Design to save energy

- 1. Do user research**
- 2. Simplify**
- 3. Design ‘mobile first’**
- 4. Good navigation**

Pas på! Der er desværre svindelmails i omløb, hvor nogen udgiver sig for at være Ørsted. [Læs mere og se eksempler her →](#)

Ørsted kåret som et af verdens mest bæredygtige energiselskaber

Carbon results for
ørsted.dk

This page was last tested on 14 Apr, 2023. [Test again](#)

Share [f](#) [t](#) [in](#) [c](#) [e](#)

Hurrah! This web page is cleaner than 70% of web pages tested

Only 0.27g of CO₂ is produced every time someone visits this web page.

1-3 OF 6

NYHEDER

Ørsted og Terra Solar går sammen om portefølje på 400 i Irland

18. SEPTEMBER 2023

Vestas

Products Services Investor Media Careers About Sustainability

Q2 2023 Inter Financial Rep

Quarterly revenue of EUR 3.4bn with an EBIT margin of 2.0 percent. Full-year guidance maintained.

Share [f](#) [t](#) [in](#) [c](#) [e](#)

Uh oh! This web page is dirtier than 53% of web pages tested

Only 0.52g of CO₂ is produced every time someone visits this web page.

The Invisible Design for Environmental Sustainability



Green Servers
Reduce HTTP requests.
Efficient Code Optimization.
SEO and IA

**Designing for
more sustainable
users**

Helping our users act more sustainably

- 1) Educate users
- 2) Sustainable standards

Designing for more sustainable users

The image displays two side-by-side screenshots of the Herning Bibliotekerne website, illustrating a design change from a light theme to a dark theme.

Left Screenshot (Light Theme): The website has a light blue header bar with navigation links: Det sker, De mindste, Børn og unge, Studerende, Litteratur, Musik, Film, Nyhedsbreve, and Log ind. Below the header is a search bar and a navigation menu with categories like Bøger, Ebøger, Lydbøger, Film, Digitale tilbud, and Mere. The main content area features a large green banner with the text "GLÆD DIG TIL EFTERÅRETS LITTERATUROPLEVELSER NYT PROGRAM UDE NU". Below the banner is a call-to-action button "Gør dit besøg på bibliotekets hjemmeside grønnere". It includes instructions for reducing CO₂ emissions by choosing dark screens or using video instead of images. Buttons for "BILLEDER" (VIS/SKJUL), "VIDEO" (VIS/SKJUL), and "SKÆRM" (LYS/MØRK) are shown. A small circular icon with a leaf symbol is in the bottom left corner.

Right Screenshot (Dark Theme): The same website layout is shown in a dark mode theme. The header bar is dark, and the main content area is also dark. The text and icons are white or light gray, making them stand out against the dark background. The "Gør dit besøg" section and the "BILLEDER", "VIDEO", and "SKÆRM" controls are also present in this dark version.

Designing for save energy

The image shows two side-by-side screenshots of the Herning Kommune website. Both screenshots feature a large banner image of a modern wooden building by a lake. A white search bar with the placeholder "Hvad kan vi hjælpe med?" is positioned in the upper right corner.

Left Screenshot (Original Design): The top navigation bar includes a green button labeled "REDUCÉR SIDENS KLIMAATTRYK". Below the banner, there are three blue call-to-action boxes:

- Tour of Scandinavia - Battle of the North - kommer til Herning** (Læs mere →)
- Karrieredag for højtuddannede jobsøgende 6. september** (Læs mere →)
- Vis hensy i skoletrafikken** (Læs mere →)

Right Screenshot (Optimized Design): This version has a dark header with the "Herning Kommune" logo and a "NORMAL VISNING" button. The "REDUCÉR SIDENS KLIMAATTRYK" button is now located in the top right corner of the main content area. The three call-to-action boxes remain the same:

- Tour of Scandinavia - Battle of the North - kommer til Herning** (Læs mere →)
- Karrieredag for højtuddannede jobsøgende 6. september** (Læs mere →)
- Vis hensy i skoletrafikken** (Læs mere →)

A message at the top of the right screenshot reads: "Tak fordi du valgte vores Reducér sidens klimaattryk. Nu reducerer du i snit CO2-attrykket med 30 % for hver sidevisning og op imod 70 % på sider med mange billeder." (Thank you for choosing our Reduce the website's climate footprint. Now you reduce on average CO2-emissions by 30% per page view and up to 70% on pages with many images.)

LOW←TECH MAGAZINE

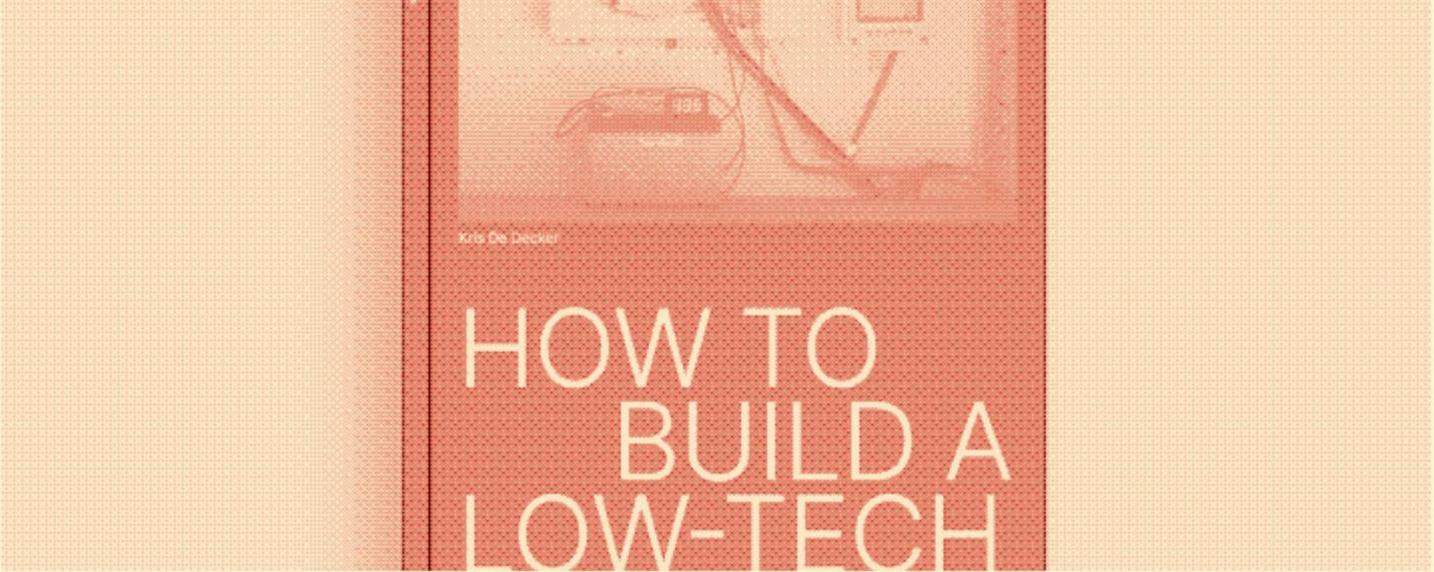
This is a solar-powered website, which means it sometimes goes offline

About | Low-tech Solutions | High-tech Problems | Obsolete Technology | Offline Reading | Archive | Donate | NTM

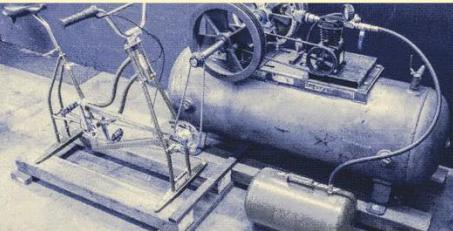
Thematic Book Series: How to Build a Low-tech Internet?

We have launched the first volume in a new series of books opening up Low-tech Magazine's archive by theme.

August 18, 2023

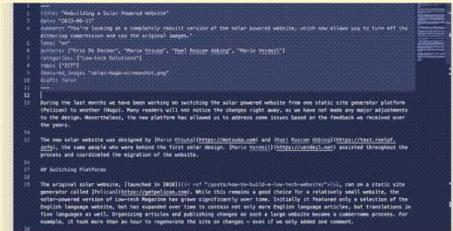


The book cover features a red background with a halftone pattern. At the top, there is a small image of a bicycle. Below the image, the author's name 'Kris De Decker' is printed. The title 'HOW TO BUILD A LOW-TECH' is written in large, white, sans-serif capital letters. The entire book cover is set against a red grid background.



A photograph of a mechanical device consisting of a large cylindrical tank connected to various pipes and a hand-cranked pump mechanism.

Human Powered Air Compressor and Energy Storage System



A screenshot of a computer screen displaying a text-based log or command-line interface. The text discusses the transition from a static site generator to a new solar-powered website.

Rebuilding a Solar Powered Website

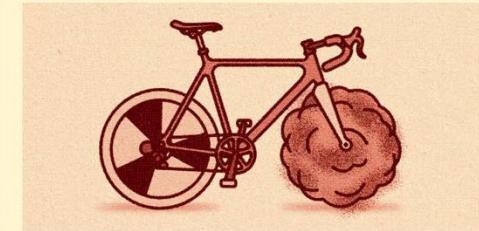
You're looking at a completely rebuilt version of



A comic strip titled 'BACK TO THE FUTURE OF TECHNOLOGY'. It features two characters, MÉDOR and GUILLAUME LION, in a futuristic setting. The comic is signed 'THE DON QUIXOTE OF THE 21ST CENTURY' and 'TRANSLATED FROM FRENCH BY NICK PATRICK'.

Low-tech Magazine: The Comic

Filmmaker Guillaume Lion visited Low-tech



A black and white illustration of a bicycle. The front wheel is replaced by a large, textured sphere, symbolizing a sustainable alternative to traditional wheels.

Can We Make Bicycles Sustainable Again?

Cycling is the most sustainable form of ↑

What are the advantages?

1 For the planet

So we have a planet to live on for many centuries to come

2 For the owners

Financial savings and a more sustainable brand

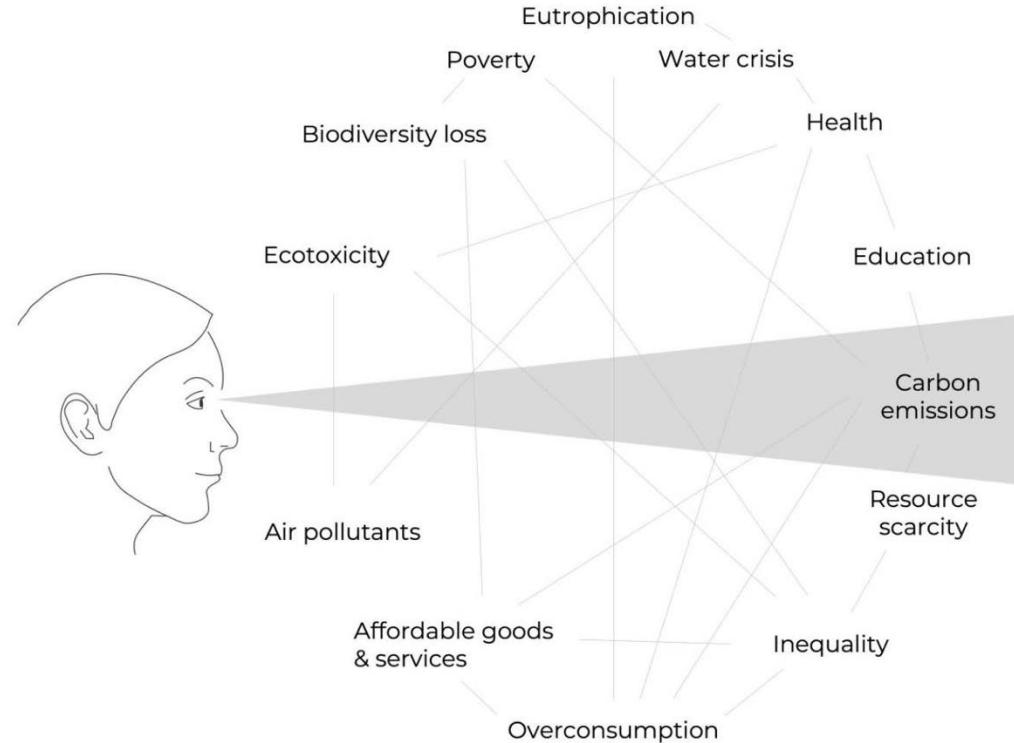
3 For the users

Higher performance and a better user experience

Designing for all aspects of sustainability

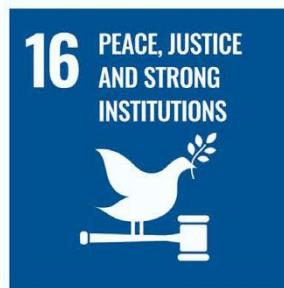
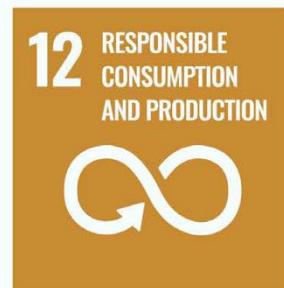
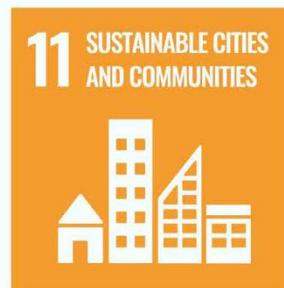
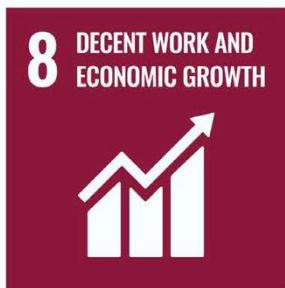
Sustainability transition

Carbon Tunnel Vision



Graphic by Jan Konietzko

SUSTAINABLE DEVELOPMENT GOALS



E

Environmental Sustainability

Focuses on reducing the CO₂ footprint of digital solutions through energy-efficient UI, technologies, and reduced data consumption.

Visible Design

- Visible sustainability choices: Clear initiatives for users through the UI.

Design

UI Design for Lower Energy Consumption.
Energy-Efficient Fonts.
Colors and OLED Optimization.
Images.
Streaming, Video and 3D

Behavior

Transparent UI – Making Choices Visible.
UI Behavior: Giving Users Control Over Resource-Heavy Elements

*surface**skeleton**structure*

Invisible Design

- Invisible sustainability choices: Frontend and backend optimizations that users do not directly notice but make a significant impact.

Frontend + Backend

Green Servers and Energy-Efficient Hosting.
Efficient Code Optimization.
Lazy Loading
Caching & Local Storage
Reducing HTTP Requests
Streaming & Video: Reducing Data Consumption and Energy Waste
Content Management System (CMS)
Search Engine Optimization(SEO)

S

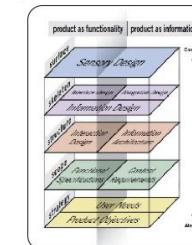
Social Sustainability

Ensures that digital solutions are inclusive and ethical for all users by incorporating accessibility (WCAG standards), equity in design choices, and the absence of manipulative patterns.

scope

Accessibility / Equality / Behavior

Accessibility & Inclusion
Digital Balance
Ethical UX & Behavioral Design
Equity and AI



G

Governance

It's about embedding sustainability in management and decision-making processes so that responsible choices are made across the organization.

This requires strategic focus, ethics, and the courage to prioritize sustainable design solutions.

strategy

Governance

Ethics
Courage in Design Choices
UX Governance og Forretningsmål

The Elements of UX, GARRETT, 2011



Environmental Sustainability

Focuses on reducing the CO₂ footprint of digital solutions through energy-efficient UI, technologies, and reduced data consumption.

Visible Design

- Visible sustainability choices: Clear initiatives for users through the UI.

surface

Design

UI Design for Lower Energy Consumption.
Energy-Efficient Fonts.
Colors and OLED Optimization.
Images.
Streaming, Video and 3D

Behavior

Transparent UI – Making Choices Visible.
UI Behavior: Giving Users Control Over Resource-Heavy Elements

structure

Invisible Design

- Invisible sustainability choices: Frontend and backend optimizations that users do not directly notice but make a significant impact.

skeleton

Frontend + Backend

Green Servers and Energy-Efficient Hosting.
Efficient Code Optimization.
Lazy Loading
Caching & Local Storage
Reducing HTTP Requests
Streaming & Video: Reducing Data Consumption and Energy Waste
Content Management System (CMS)
Search Engine Optimization(SEO)

The background of the slide features a photograph of clear blue water with small white bubbles rising towards the surface, creating a sense of depth and purity.

**Designing for
Environmental
Sustainability**

Non-human Personas

- **Personas are profiles of fictitious target persons.** They contain demographic information as well as goals, wishes, actions and feelings of the hypothetical target person. The systematic framework helps to better understand your desired users, customers and buyers.
- **Non-human Personas are profiles of affected animals or natural ecosystems.** Therefore, it extends the previously known Persona method with non-human target persons such as "Mother Nature". They equally contain demographic information as well as goals, wishes, actions and feelings. Because more than just your target group is impacted by your project, brand or company.

How to use non-human Personas?

- Non-human Personas can be used just for yourself, within your team, with clients or even companywide.
- You can use the method for animals and ecosystems that are affected by your project but also for animals and ecosystems that you would like to positively impact.
- Non-human Personas help in every decision process in product development, marketing and business.
- Discuss this method in your team, with your colleagues, with other UX designers. How can you implement it in your work? Can you tweak it so it fits better for you?
- Apply the Personas to all design processes – website, app, newsletter funnel, content, communications, marketing strategy and services.

Case - Part 1: CO₂ & Environmental Sustainability *(The Visible and Invisible Impact)*

In the first part, you will design and develop a one-page HTML/CSS campaign site that takes their assigned non-human persona into account.

The site should reflect sustainable digital design principles by considering both visible and invisible environmental impacts.

Requirements:

- CO₂ Optimization: Minimize energy consumption through optimized code, compressed assets, and efficient design choices.
- The Visible Impact: Reduce heavy visuals and resource-intensive elements while maintaining strong visual communication.
- The Invisible Impact: Implement technical optimizations such as lazy loading, caching, and reduced HTTP requests.
- Non-Human Persona Integration: The campaign should communicate the needs and challenges of the assigned persona in a way that engages users and promotes sustainable choices.

Deliverable:

1. A fully functional one-page campaign site (HTML/CSS/JS).
2. A documented analysis (UX Canvas) mapping how sustainability principles are implemented in the design.
3. An explanation of design decisions, focusing on how the persona's needs influenced the content, layout, and technical choices.
4. A calculation of the environmental impact of your campaign site

NON-HUMAN PERSONAS

1: The Worn-Out T-Shirt



Quote:

“I was once someone’s favorite, but now I’m forgotten in the back of a drawer.”

Values:

Circular economy, waste reduction, responsible fashion.

Problems and Challenges:

Disposed of too quickly, ends up in landfills, textile recycling is unclear.

Desires, Wishes, and Dreams:

To be repurposed, resold, or upcycled into something new

User Stories:

1. As a worn-out t-shirt, I need a second-hand marketplace to extend my lifespan so I don’t end up in landfills too soon.
2. As a worn-out t-shirt, I want users to learn about textile recycling so that I can be properly disposed of or repurposed.
3. As a worn-out t-shirt, I need a clear impact label that shows my water and CO₂ footprint to encourage responsible purchasing.
4. As a worn-out t-shirt, I want a digital repair guide so users can mend me instead of discarding me.
5. As a worn-out t-shirt, I need a visible trade-in option on e-commerce platforms so I can be part of a circular economy.

2: The Rainforest



Quote:

*“I am the lungs of the Earth,
but I’m struggling to breathe.”*

Values:

Biodiversity, ecosystem preservation, climate balance.

Problems and Challenges:

Deforestation, industrial agriculture, illegal logging.

Desires, Wishes, and Dreams:

To be protected, restored, and valued for my ecological role.

User Stories:

1. As a rainforest, I need digital platforms to highlight sustainable product certifications so consumers can support deforestation-free choices.
2. As a rainforest, I want e-commerce websites to provide carbon offset options for deliveries to reduce environmental harm.
3. As a rainforest, I need companies to transparently share their supply chain data so that users can make informed, eco-conscious choices.
4. As a rainforest, I want digital campaigns to discourage the use of palm oil and other deforestation-linked ingredients.
5. As a rainforest, I need interactive educational content to show users the impact of deforestation on biodiversity and climate.

3: The Soil



Quote:

“Everything that grows starts with me, but I’m getting weaker.”

Values:

Sustainable farming, healthy ecosystems, food security.

Problems and Challenges:

Overuse of chemicals, soil degradation, pollution.

Desires, Wishes, and Dreams:

To be nurtured, regenerated, and respected for my role in life cycles.

User Stories:

1. As soil, I need digital platforms to promote regenerative agriculture practices so farmers can preserve soil health.
2. As soil, I want online grocery stores to label products based on sustainable farming methods so consumers can choose responsibly.
3. As soil, I need companies to reduce excessive packaging so microplastics and waste do not harm my ecosystem.
4. As soil, I want digital experiences to educate users about composting and reducing food waste to keep me nutrient-rich.
5. As soil, I need businesses to minimize digital waste and unnecessary data storage to reduce the CO₂ footprint of cloud servers.

4: The Electronic Waste Dump



Quote:

"I'm full of discarded devices, but many of them still have value."

Values:

Circular economy, responsible disposal, ethical tech use.

Problems and Challenges:

E-waste pollution, lack of repair culture, planned obsolescence.

Desires, Wishes, and Dreams:

To see electronics repurposed, repaired, and recycled efficiently

User Stories:

1. As an electronic waste dump, I need e-commerce sites to highlight refurbished electronics so fewer devices end up discarded.
2. As an electronic waste dump, I want digital platforms to provide clear e-waste recycling guides so users dispose of old devices responsibly.
3. As an electronic waste dump, I need tech companies to reduce unnecessary software updates that make hardware obsolete too quickly.
4. As an electronic waste dump, I want repair tutorials and spare parts easily accessible online to extend device lifespans.
5. As an electronic waste dump, I need transparent sustainability commitments from brands to ensure ethical handling of e-waste.

5: The Cotton Field



Quote:

“I provide the fibers for your clothes, but I am being drained dry.”

Values:

Sustainable agriculture, water conservation, fair labor

Problems and Challenges:

Water overuse, pesticide pollution, exploitative labor.

Desires, Wishes, and Dreams:

To be farmed responsibly and with respect for nature and workers.

User Stories:

1. As a cotton field, I need clothing brands to use organic and regenerative cotton farming to protect soil health.
2. As a cotton field, I want e-commerce stores to highlight water-conscious textiles so consumers choose responsibly.
3. As a cotton field, I need brands to reduce excessive textile waste and encourage fabric recycling.
4. As a cotton field, I want fashion retailers to provide transparency about fair labor practices in cotton farming.
5. As a cotton field, I need digital education campaigns to raise awareness about the impact of conventional cotton farming on water resources.

6: The Coffee Farmer



Quote:

“I cultivate the beans that fuel your mornings, but I struggle to make a living..”

Values:

Fair trade, ethical farming, sustainable agriculture.

Problems and Challenges:

Unfair wages, climate change effects, market instability.

Desires, Wishes, and Dreams:

To be fairly compensated and work in harmony with nature.

User Stories:

1. As a coffee farmer, I need digital marketplaces to highlight fair trade and organic coffee options so consumers make ethical choices.
2. As a coffee farmer, I want direct-to-consumer platforms to ensure I get fair compensation for my crops.
3. As a coffee farmer, I need coffee brands to transparently communicate their supply chain practices to build trust.
4. As a coffee farmer, I want digital storytelling to educate users on the impact of climate change on coffee production.
5. As a coffee farmer, I need digital loyalty programs to encourage sustainable coffee consumption.

7 The Ocean



Quote:

“I hold life within me, but I am drowning in plastic.”

Values:

Marine biodiversity, pollution reduction, clean water.

Problems and Challenges:

Unfair wages, climate change effects, market instability.

Desires, Wishes, and Dreams:

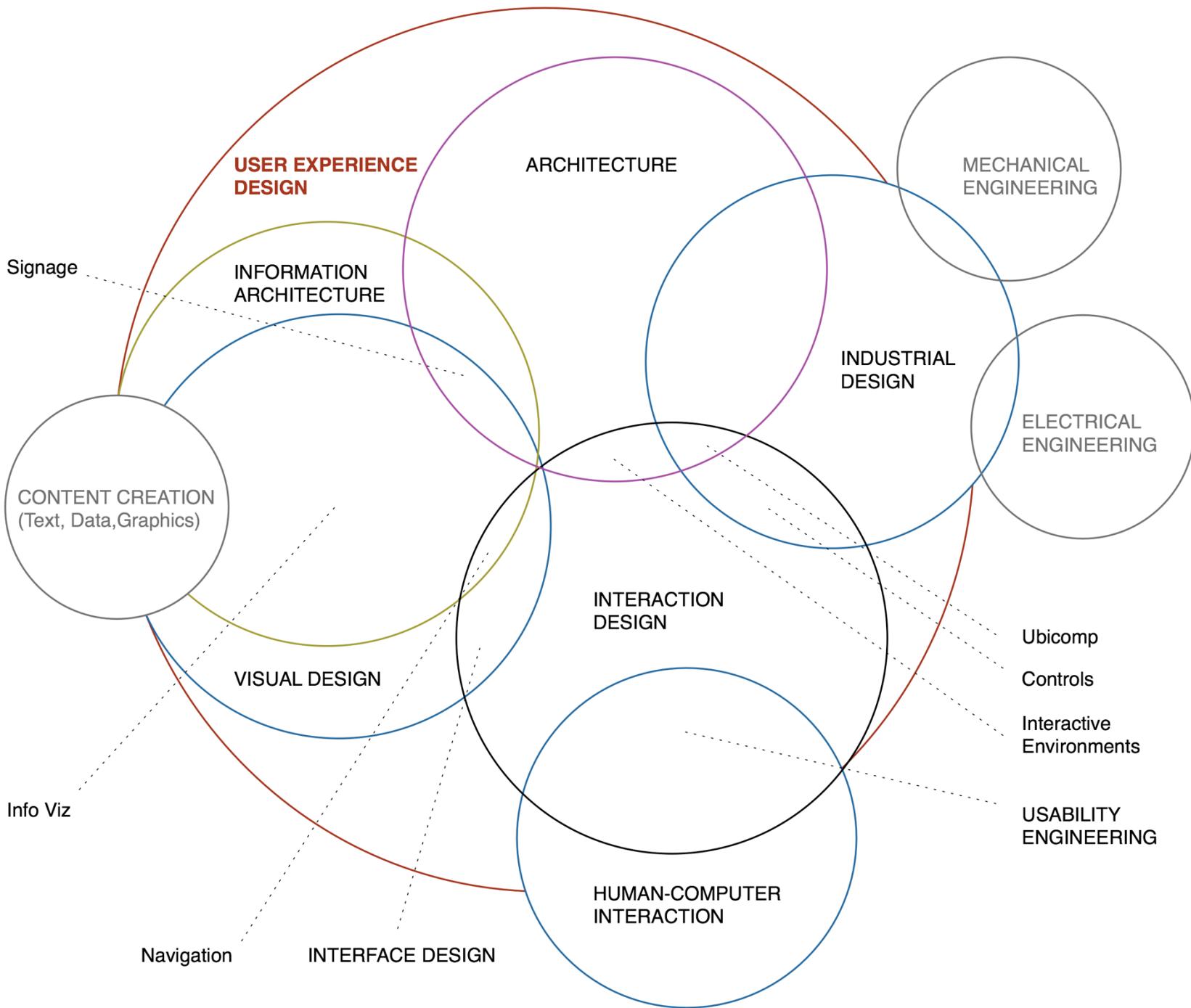
To be fairly compensated and work in harmony with nature.

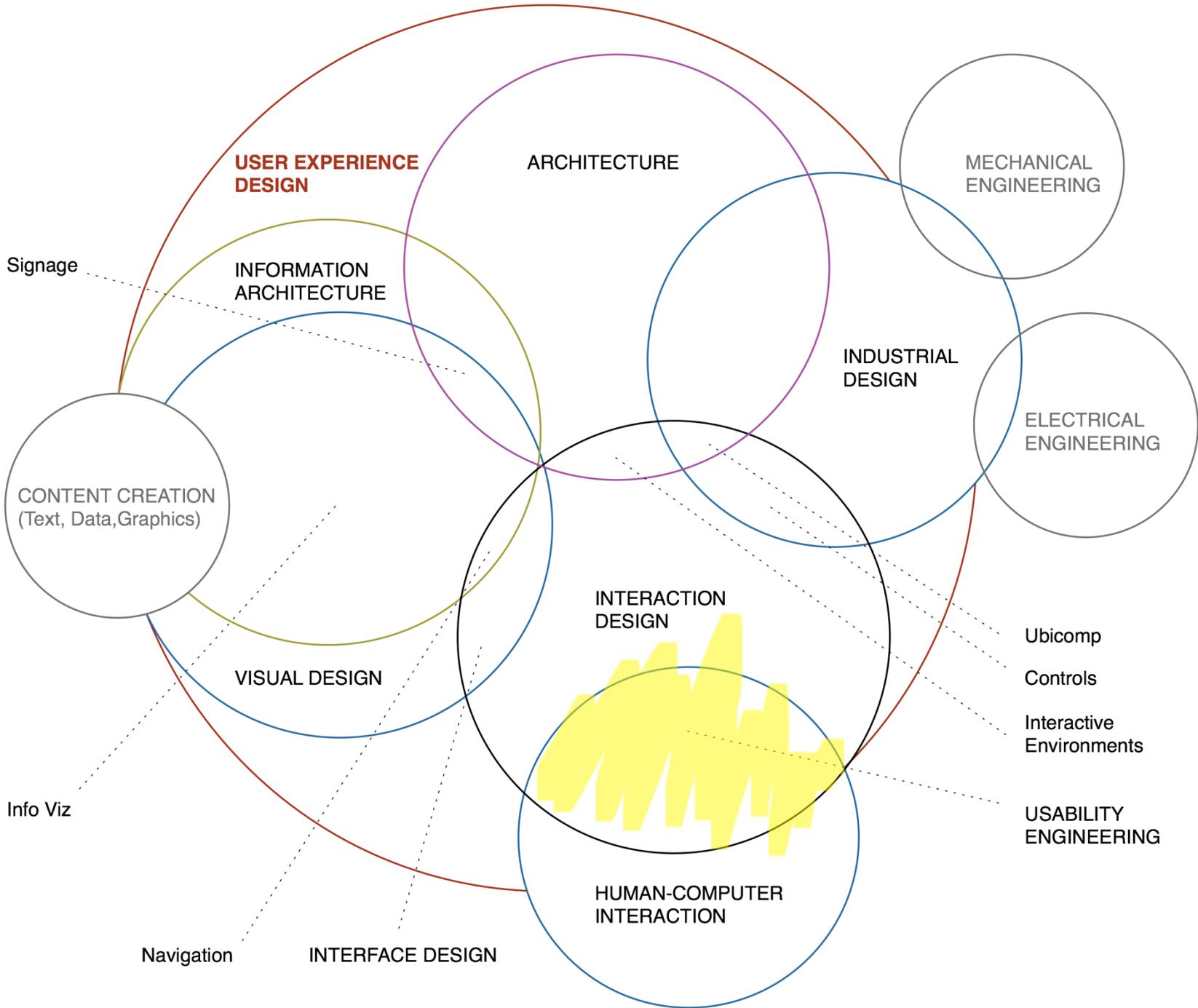
User Stories:

1. As the ocean, I need online stores to reduce plastic packaging so that less waste ends up polluting my waters.
2. As the ocean, I want e-commerce sites to promote sustainable seafood choices to protect marine life.
3. As the ocean, I need digital tools to track and raise awareness about ocean plastic pollution.
4. As the ocean, I want travel platforms to highlight eco-friendly tourism options that do not harm marine ecosystems.
5. As the ocean, I need sustainable fashion brands to showcase ocean-safe materials to reduce microplastic shedding.

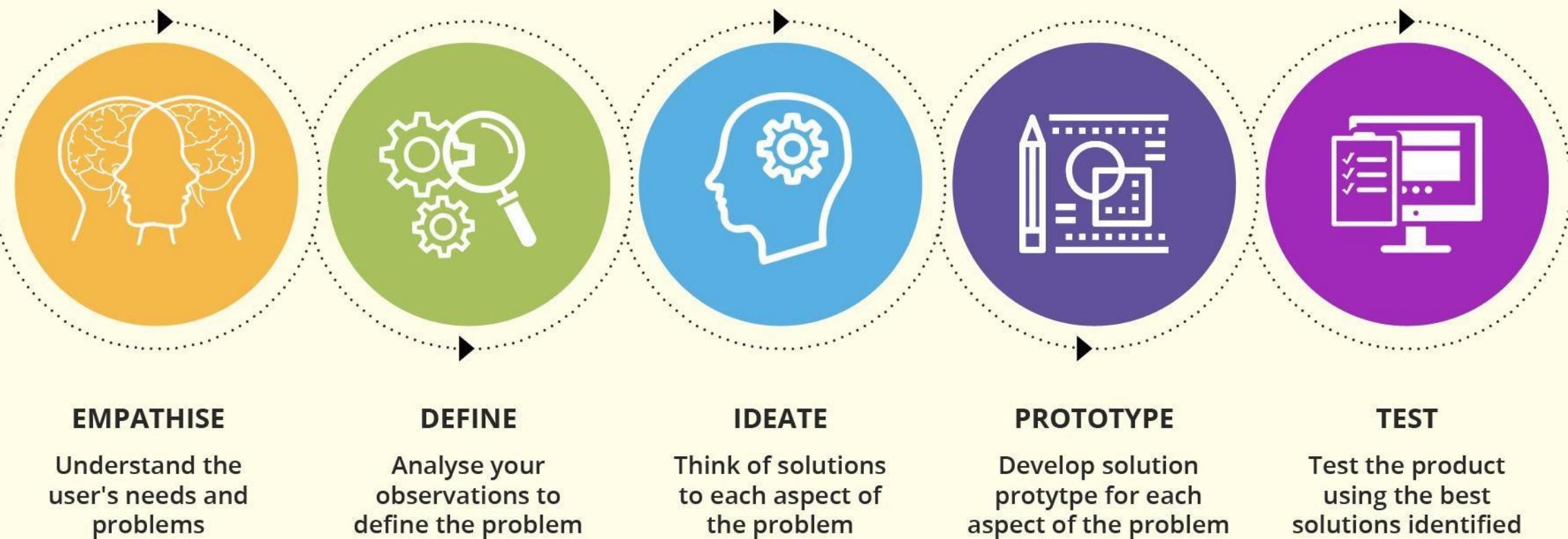
Usability

WEB DEVELOPMENT, 2025





Design Thinking



You ≠ user

Web-navigation

Search-dominant users



Link-dominant users

[Click here!](#)

User behavior is important, opinions are not!



Usability

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use.

(ISO definition)

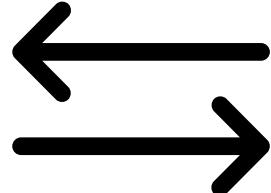
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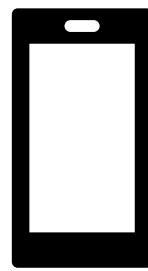
(ISO definition)



User



Goal



Product



The scenario we want to understand

Usability

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use.

(ISO definition)

- **Effectiveness**

Can the system do what I want?

- **Efficiency**

Can the system solve my tasks fast?

- **Satisfaction**

Do I feel good while using the system?



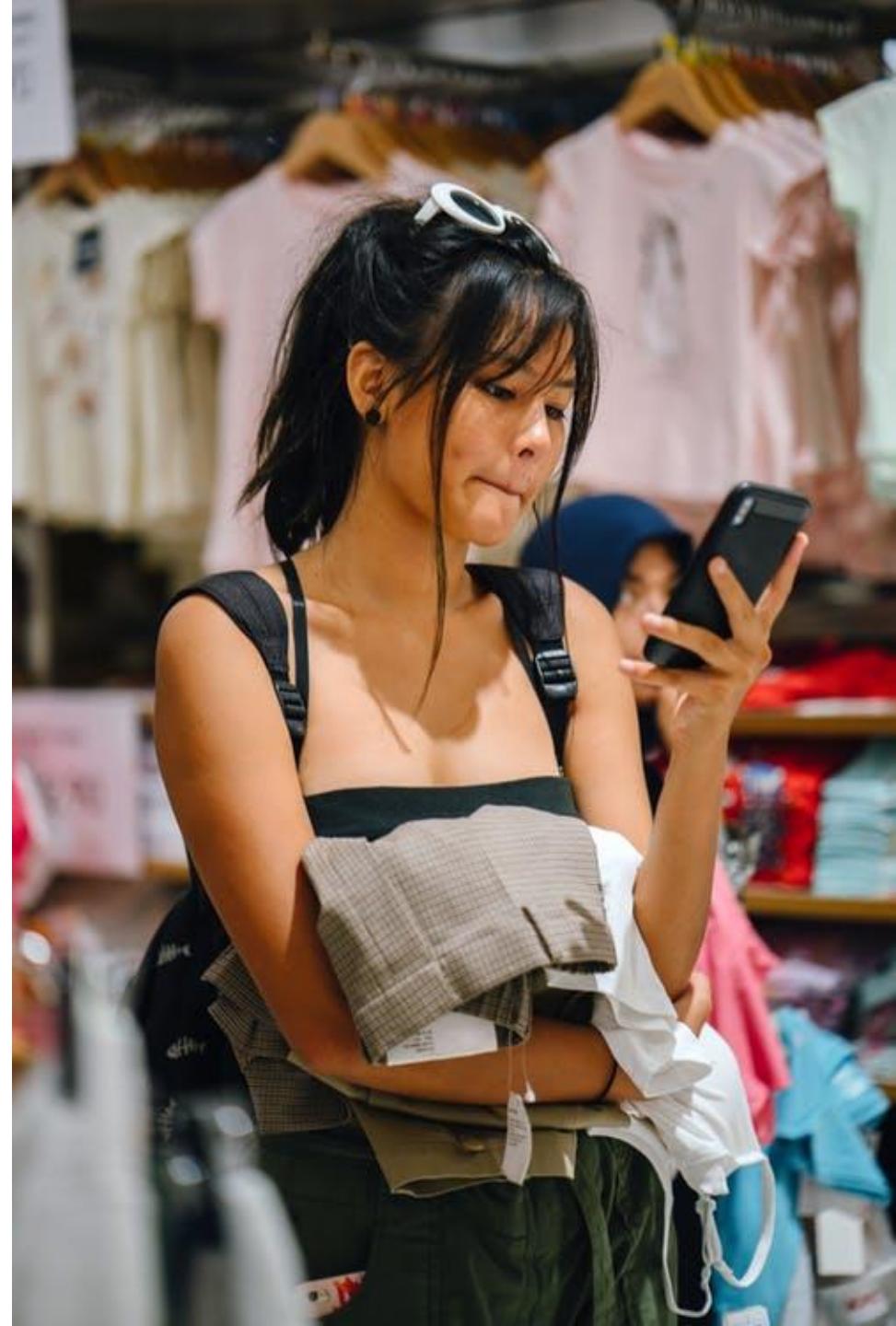
Usability metrics

Usability

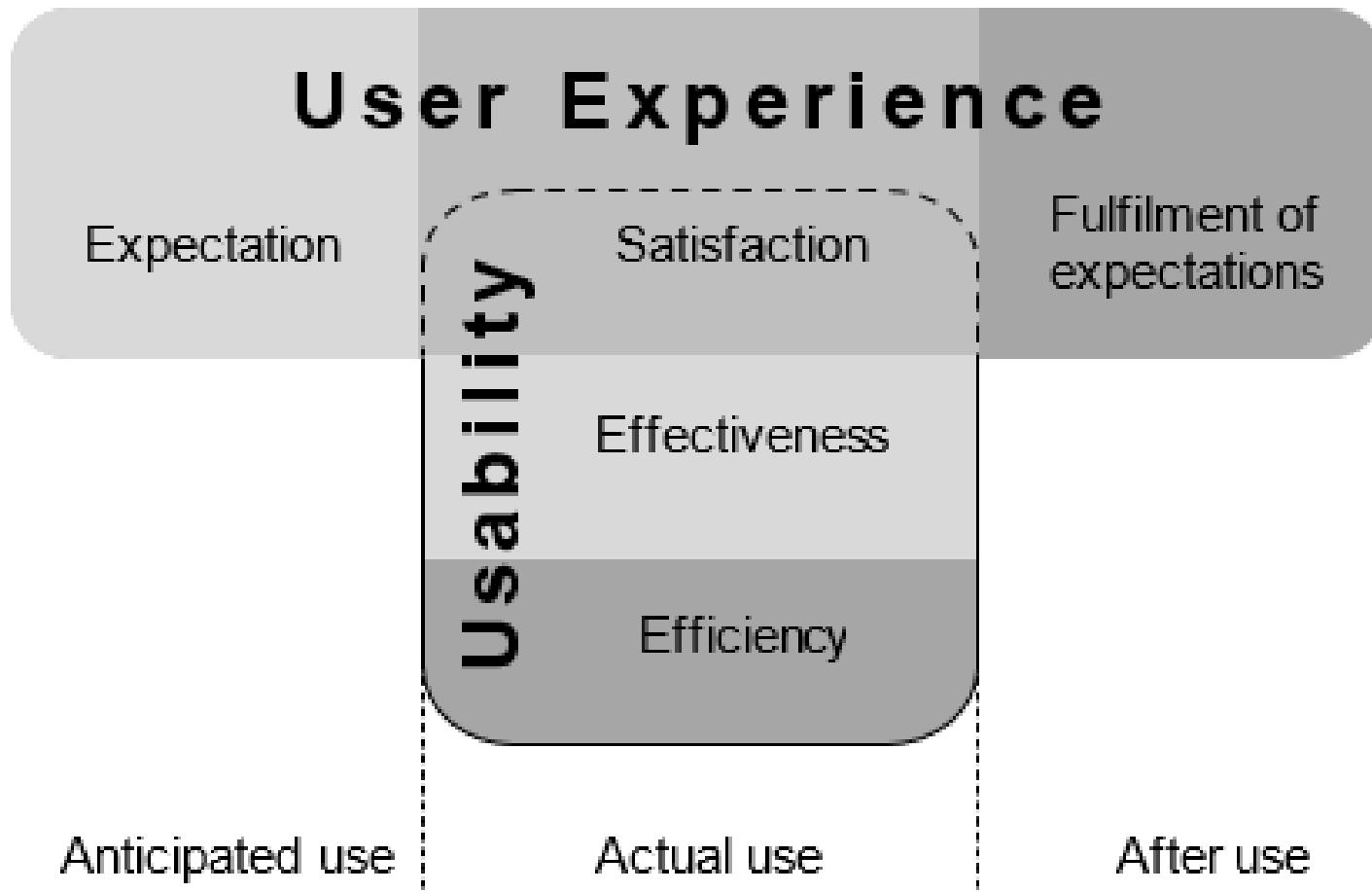
The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use.

(ISO definition)

The circumstances that can affect the user experience “from the outside”



Usability & User Experience



Usability and writing

“A sentence should contain no unnecessary words, a paragraph no unnecessary sentences, for the same reason a drawing should have no unnecessary lines and a machine no unnecessary parts”

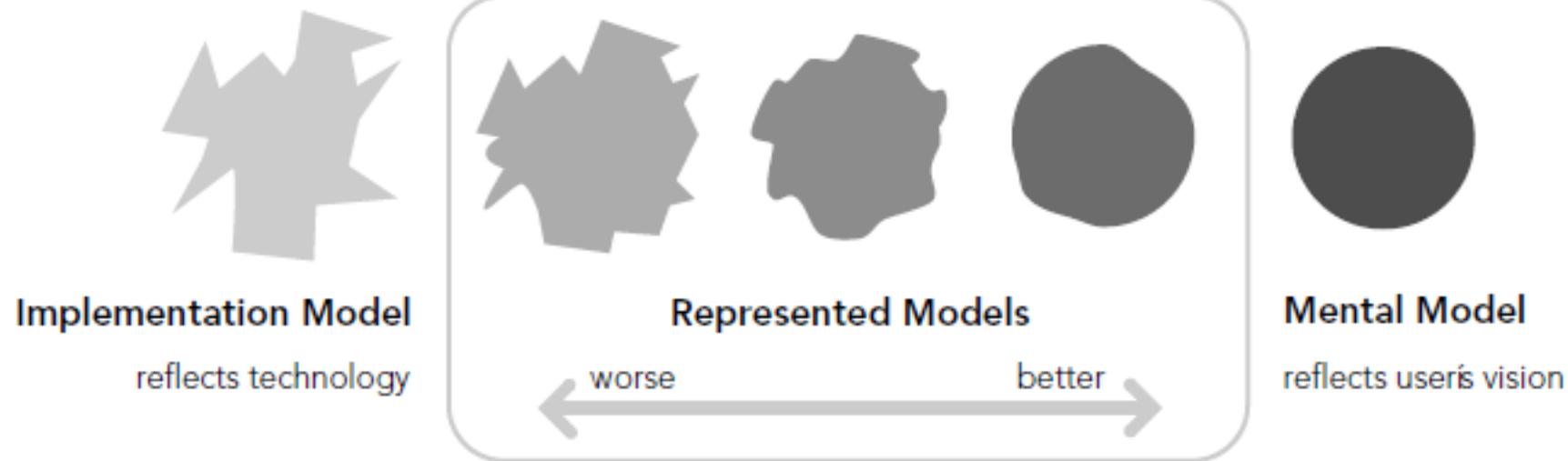
– E.B. White

Limit the amount of:

- Instructional texts
- “Happy talk”

Your “mental model”





Affordance

- The “cues” in a design that indicate how the object is used
- Ideally, the look and feel of an object should match its functionality



PUSH



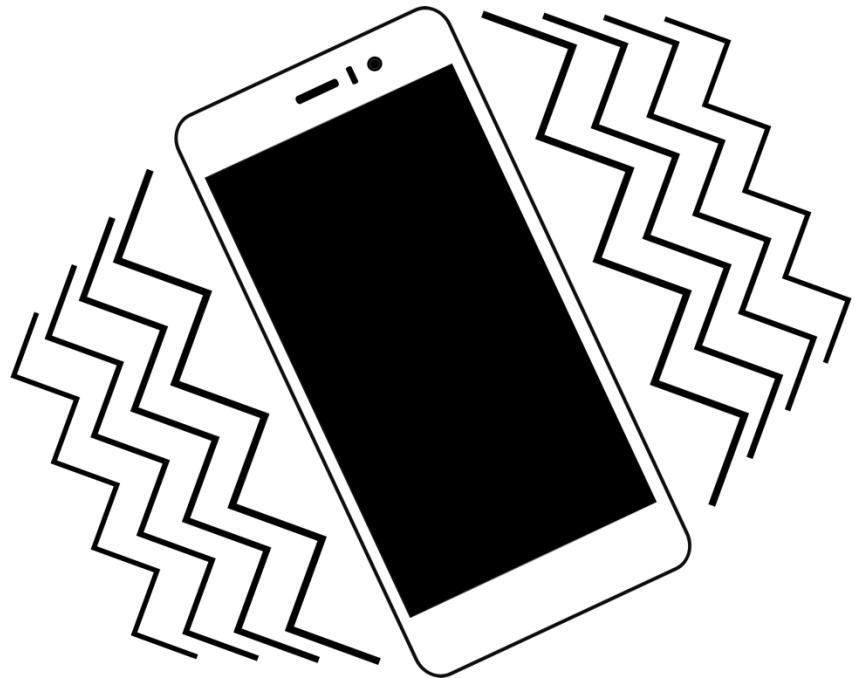
Submit

Submit

Submit



Signifiers and feedback



Design conventions

Metaphors taken from the physical world



Design conventions

Abstract symbols



Jakob Nielsen's 10 heuristics

1. **Visibility of system status**

If the website forces you to wait, feedback is important

2. **Match between system and real world**

Understanding the audience of the website

3. **User control and freedom**

Where am I and how did I get here?
(Wayfinding)

4. **Consistency and standards**

People spend most of their time on somebody else's website, not on yours. Follow the design conventions.

5. **Error prevention**

Even better than good error messages is a careful design which prevents a problem from occurring in the first place

6. **Recognition rather than recall**

The user should not have to remember information from one part of the dialogue to another

7. **Flexibility and efficiency of use**

Provide shortcuts for expert users

8. **Aesthetic and minimalistic design**

Consider what each element adds to the design and how it works with other elements

9. **Help users recognize, diagnose, and recover from errors**

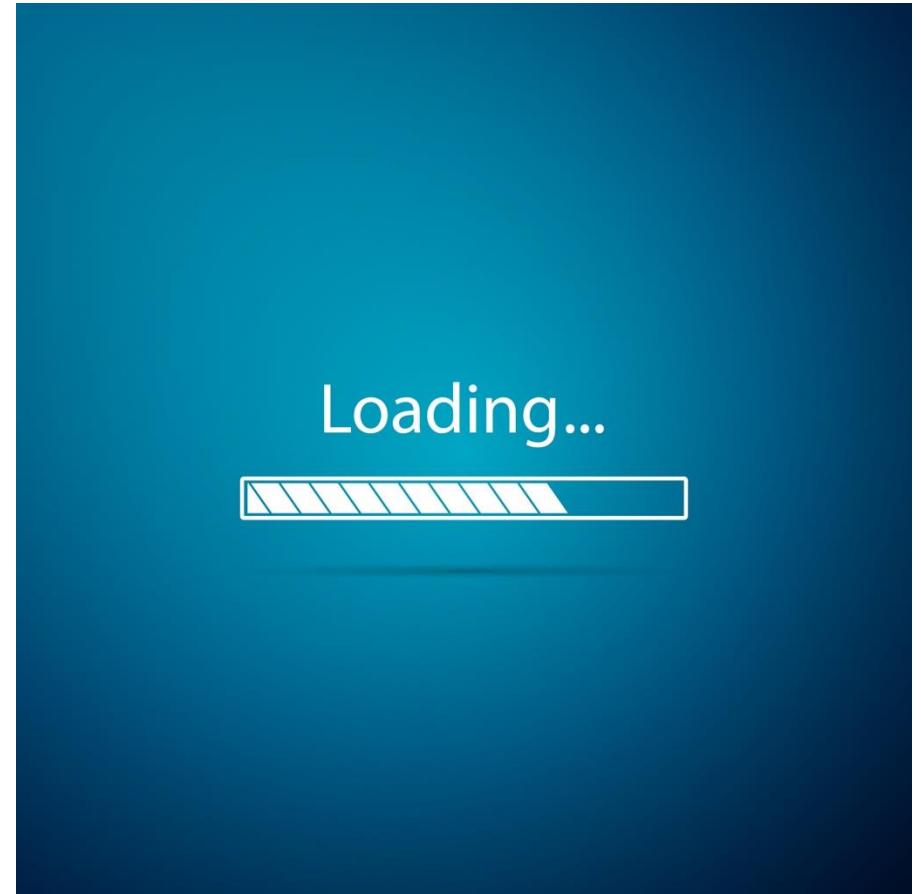
Use plain language and suggest a solution

10. **Help and documentation**

If there are functions that need an explanation, allow people to access the explanation in the same place they access the function

#1: 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.



#2: Match between system and the real world

The design should speak the users' language.

Follow real-world conventions, making information appear in a natural and logical order.



#3: User control and freedom

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.

The screenshot shows a "MY CART" interface with a yellow header bar. The header includes the title "MY CART" and a "SUBTOTAL: \$ 2607.95". Below the header is a navigation bar with icons for "MY CART'S CONTENT", "ORDER DETAILS", "BILLING ADDRESS", "SHIPPING ADDRESS", "SHIPPING METHOD", "PAYMENT METHOD", and "CONFIRM ORDER". The main content area displays three items in a table:

PRODUCT	QUANTITY	UNIT PRICE	TOTAL PRICE
NIKON D90 CAMERA 	+ 1 -	\$ 679.95	\$ 679.95
WHITE IPAD MINI 32 GB 	+ 1 -	\$ 429.00	\$ 429.00
13" MACBOOK PRO 	+ 1 -	\$ 1499.00	\$ 1499.00

Below the table is a "SUBTOTAL" section showing "\$ 2607.95". At the bottom right is a yellow "NEXT STEP" button. A "POWERED BY SNIPCART" logo is at the bottom center.

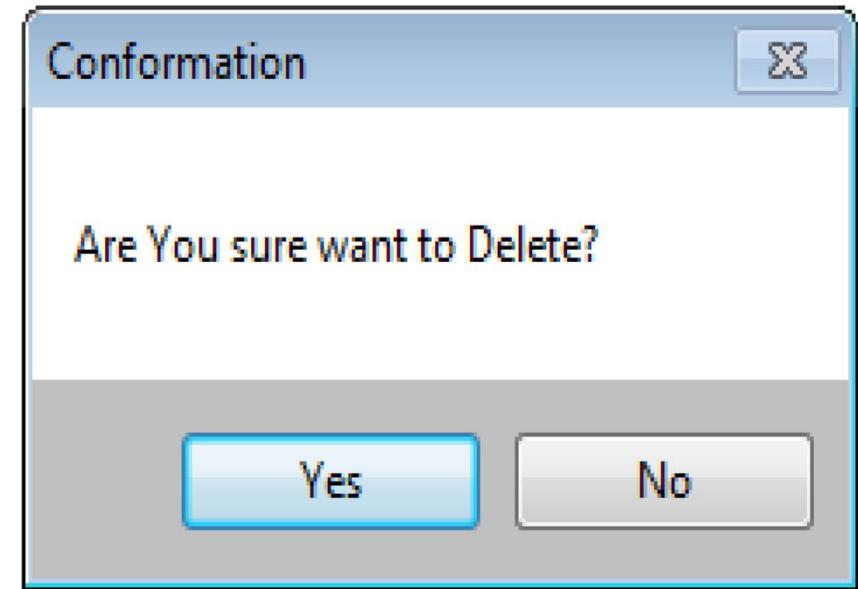
#4: Consistency and standards

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

[Hi, I'm a link](#)

#5: Error prevention

The best designs carefully prevent problems from occurring.



#6: Recognition rather than recall

Minimize the user's memory load.

The user should not have to remember information from one part of the interface to another.

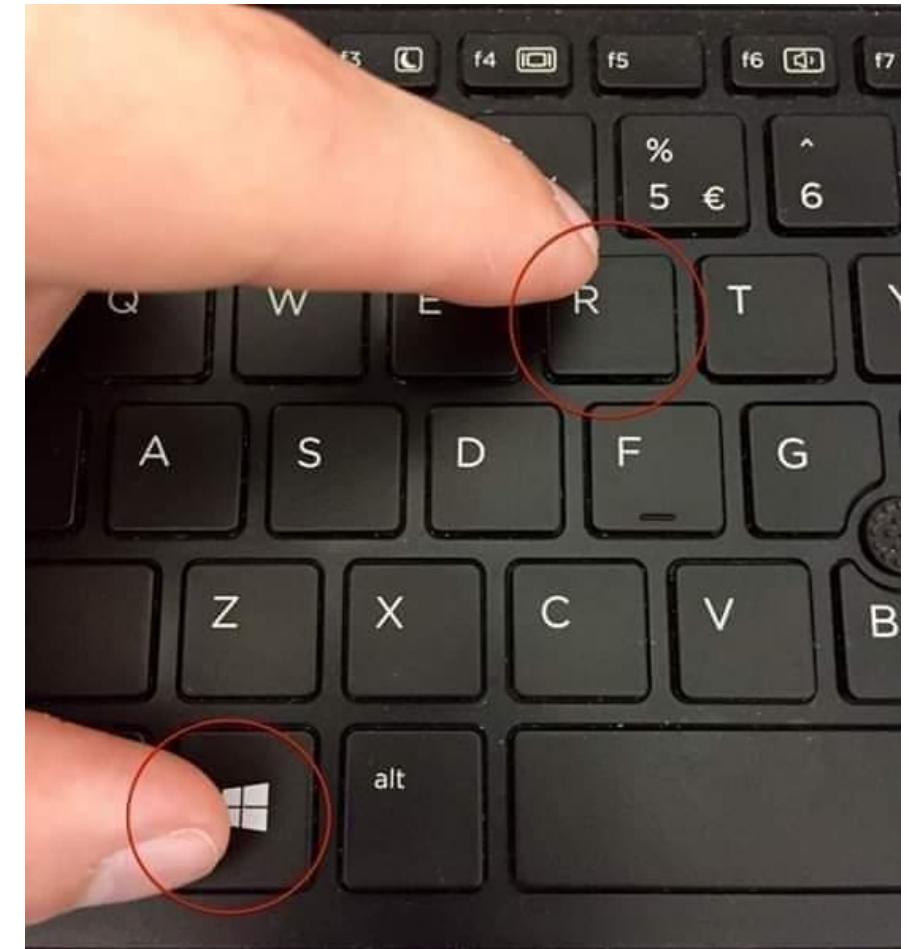
The image shows two side-by-side screenshots of the GoDaddy login interface. Both screens feature the same header: a globe icon, "Danmark - Dansk", and a phone icon.

Left Screen (My Account): This is the standard login page. It includes fields for "Brugernavn eller kundenr." (with a "Jeg har glemt det" link) and "Password" (also with a "Jeg har glemt det" link). There is a checkbox for "Hold mig logget ind" and a "Log ind" button. Below these are links for "eller" and "Fortsæt med Facebook". At the bottom, there is a "Har du ikke en konto?" section with an "Opret en konto" link. The footer copyright notice is "Copyright © 1999 -- 2018 GoDaddy Operating Company, LLC. Alle rettigheder forbeholdes. [Politik](#) [om beskyttelse af personlige oplysninger](#)".

Right Screen (Nulstil adgangskode): This screen is for resetting a password. It has a "Tilbage" link and a "Brugernavn eller kundenr." field. Below it is a "Sikkerhedsspørgsmål" section with a checkbox for "Jeg er ikke en robot" and a reCAPTCHA logo. At the bottom is a large blue "Indsend" button.

#7: Flexibility and efficiency of use

Shortcuts — hidden from novice users — may speed up the interaction for the expert user.



#8: Aesthetic and minimalist design

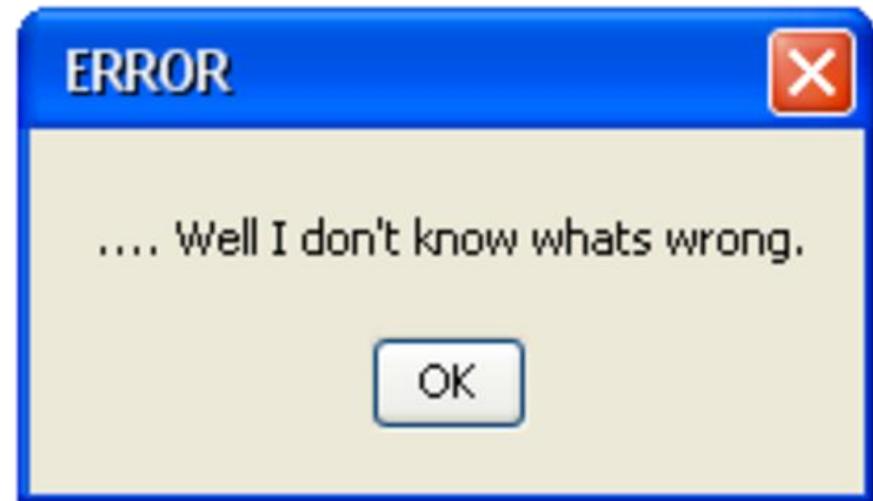
Interfaces should not contain information which is irrelevant or rarely needed.

Every piece of information in an interface competes for the user's attention.



#9: Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language, precisely indicate the problem, and constructively suggest a solution.



#10: Help and documentation

It's best if the system doesn't need any explanation.

However, if help is needed, the documentation should be easy to search and focused on the user's task.



Heuristic evaluation - method

1. Evaluators inspect the interface individually and judge its compliance with common usability principles (the “heuristics”)
 - Output: Individual list of usability problems

2. When all evaluators have finished their inspection, they meet and discuss their findings
 - Output: Group list of usability problems



How big is the problem?

3 factors

- **Frequency**
Is the problem common or rare?
- **Impact**
Will it be easy or difficult for the users to overcome?
- **Persistence**
Is it a one-time or a repeating problem?

Rating scale

0 = Not a problem at all

1 = Cosmetic problem only

2 = Minor usability problem: low priority

3 = Major usability problem: high priority

4 = Usability catastrophe: must fix this!



Think Aloud-method

In a thinking aloud test, you ask test participants to use a system to solve tasks while continuously thinking out loud.

The #1 Usability Tool!



Tasks

- **Make them realistic**

Asking a participant to do something that he wouldn't normally do will make him try to complete the task without really engaging with the interface

Bad: *Purchase a pair of orange Nike running shoes with red laces.*

Better: *Buy a pair of shoes for less than 500kr.*

- **Make them specific**

It's best to ask the users to do the action, rather than asking them how they would do it.

Bad: *You want to see a movie Sunday afternoon. Go to www.netflix.com and tell me where you'd click next.*

Better: *Use www.netflix.com to find a movie you'd be interested in seeing on Sunday afternoon.*

- **Avoid giving clues**

Step descriptions often contain hidden clues regarding how to use the interface.

Bad: *You want to see the results of your exams. Go to moodle.com, sign in, and tell me where you would click to see your grades.*

Better: *Go to moodle.com and look up the results of your exams.*

User test – a 3-step process

1. Preparation

- Create realistic tasks
- Pilot test
- Recruiting participants

2. Execution

- Be patient and empathetic
- Prompt participants to “think aloud”
- Take notes

3. Processing

- Analyzing notes
- Write documentation / test report

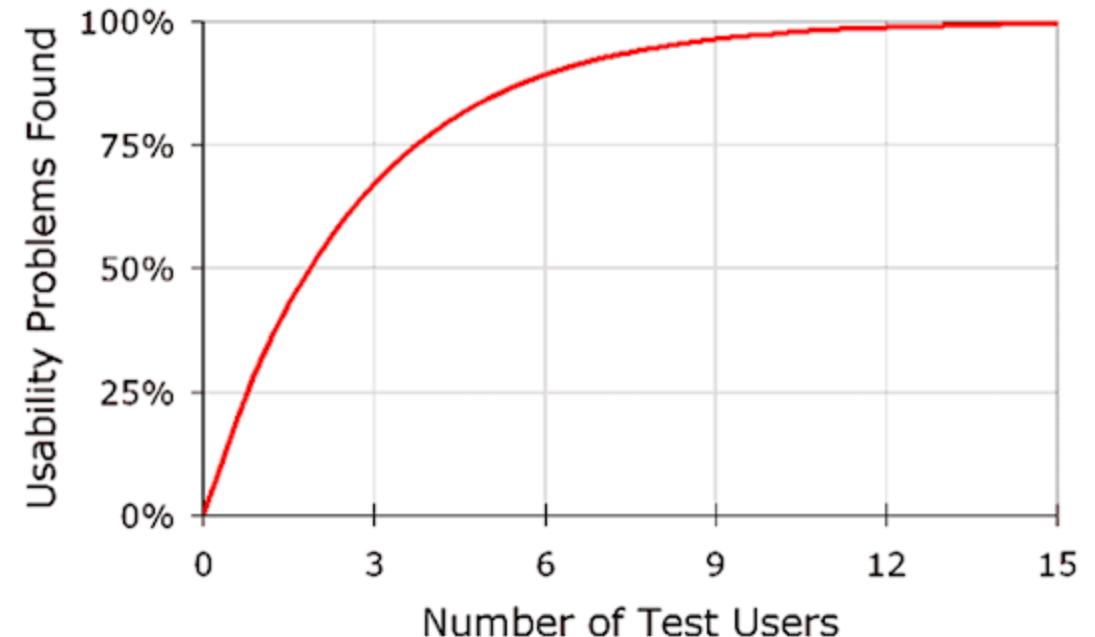


Planning the test

- What user scenarios to test?
- Write tasks
- Do a pilot test (incl. test of equipment)
- Define roles (test leader, referents)
- Create timetable
- Recruit participants

Participants

- Recruit from target audience
- 4-5 persons per test



Conduct the test

- Think aloud-method
- Be empathetic
 - We are testing the website, not the user
 - The user can't do anything wrong
- Remote user test
 - Check equipment
 - Ask if it is OK to record session
 - Present one task at a time via chat-function
 - Test participants share their screen and read the task out loud before they begin
- Remember your roles





Any volunteers?

Content of test report

- Brief introduction
- Brief description of method
- List of tasks
- Analysis
 - Main problem areas
 - Categorization of problems (frequency, impact, persistence) *
 - Quantitative measurements? (e.g., time)
 - Examples (text, screenshots, video)
- Recommendations for improvements

* <https://www.nngroup.com/articles/how-to-rate-the-severity-of-usability-problems/>

User flows

UX, WEB DEVELOPMENT, 2025

Agenda

- User types
- Empathy maps
- Personas
- User stories
- “Flow”
- User journey mapping
- Prioritizing features
- Wireflows
- Assignment – OLA 2

3 types of users

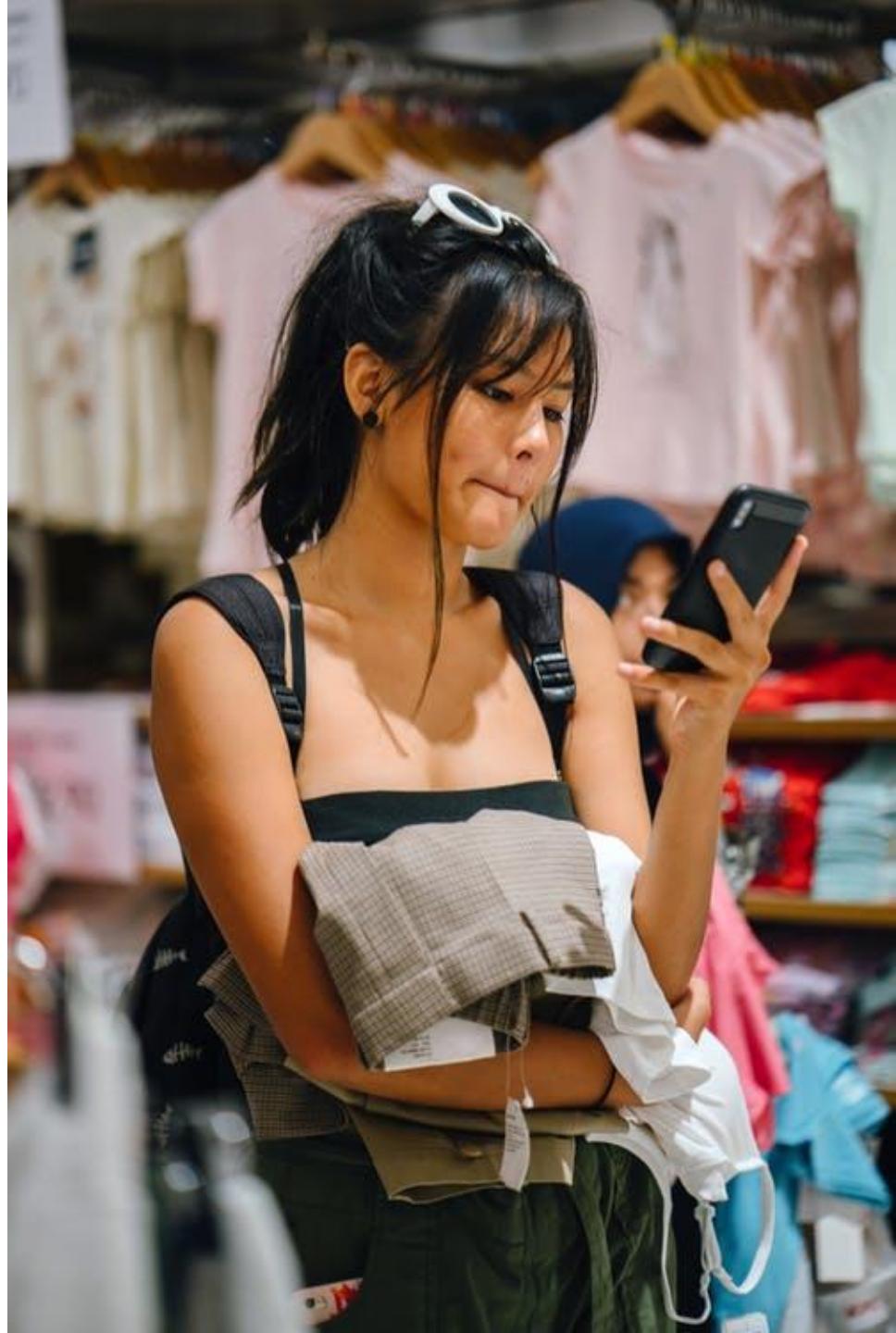
- Experts
- Willing adopters
- Mainstreamers



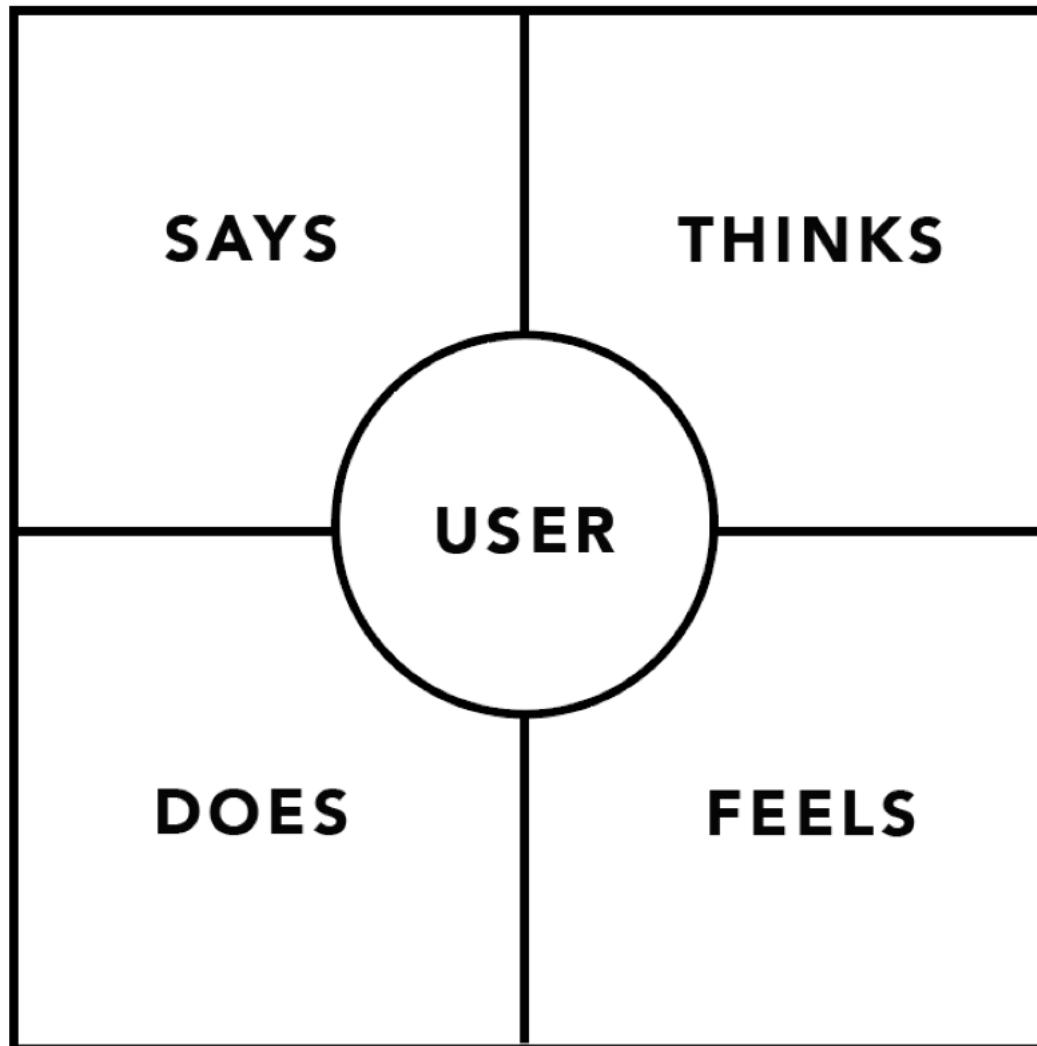
Understanding the scenario...

Like a scene from a movie:

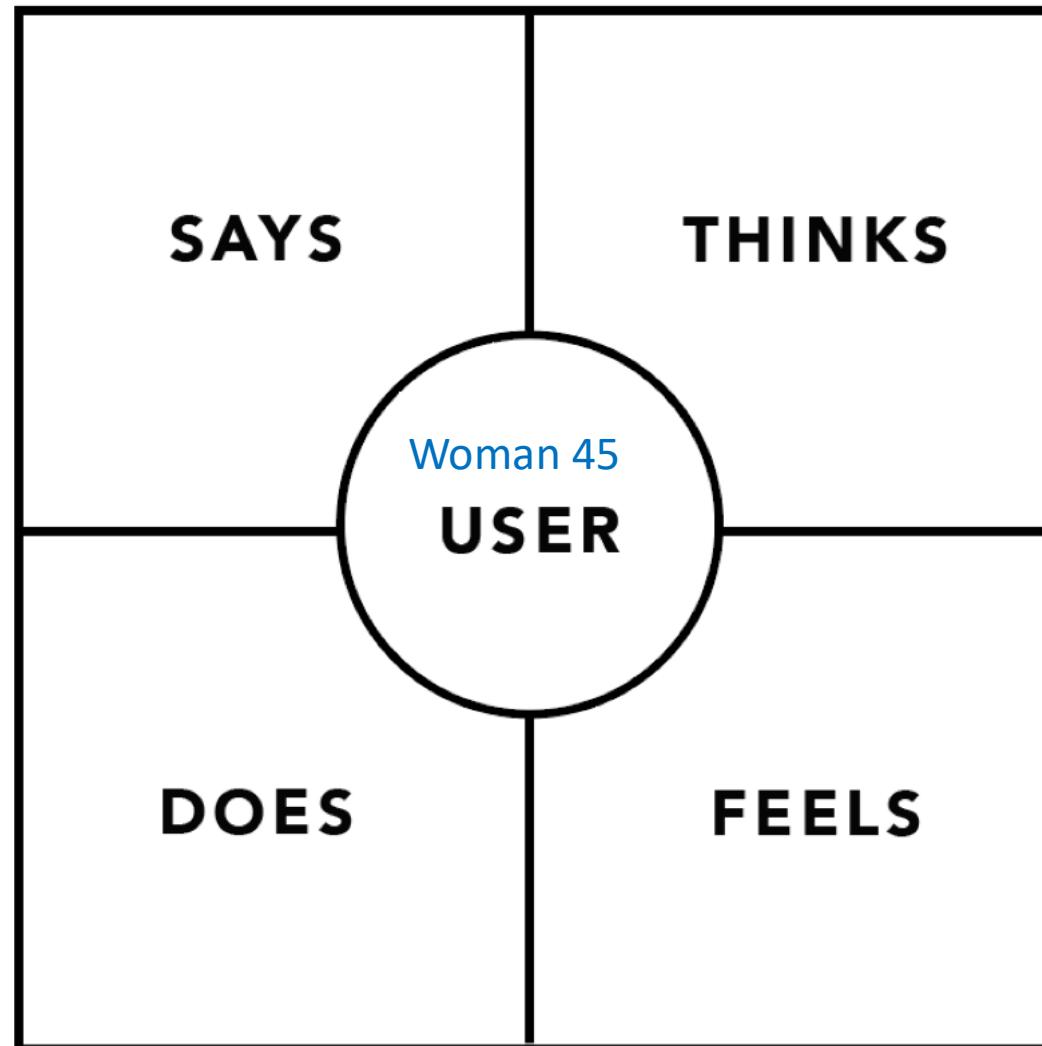
- Surroundings – where and when
- Character – who and why
- Plot – what and how



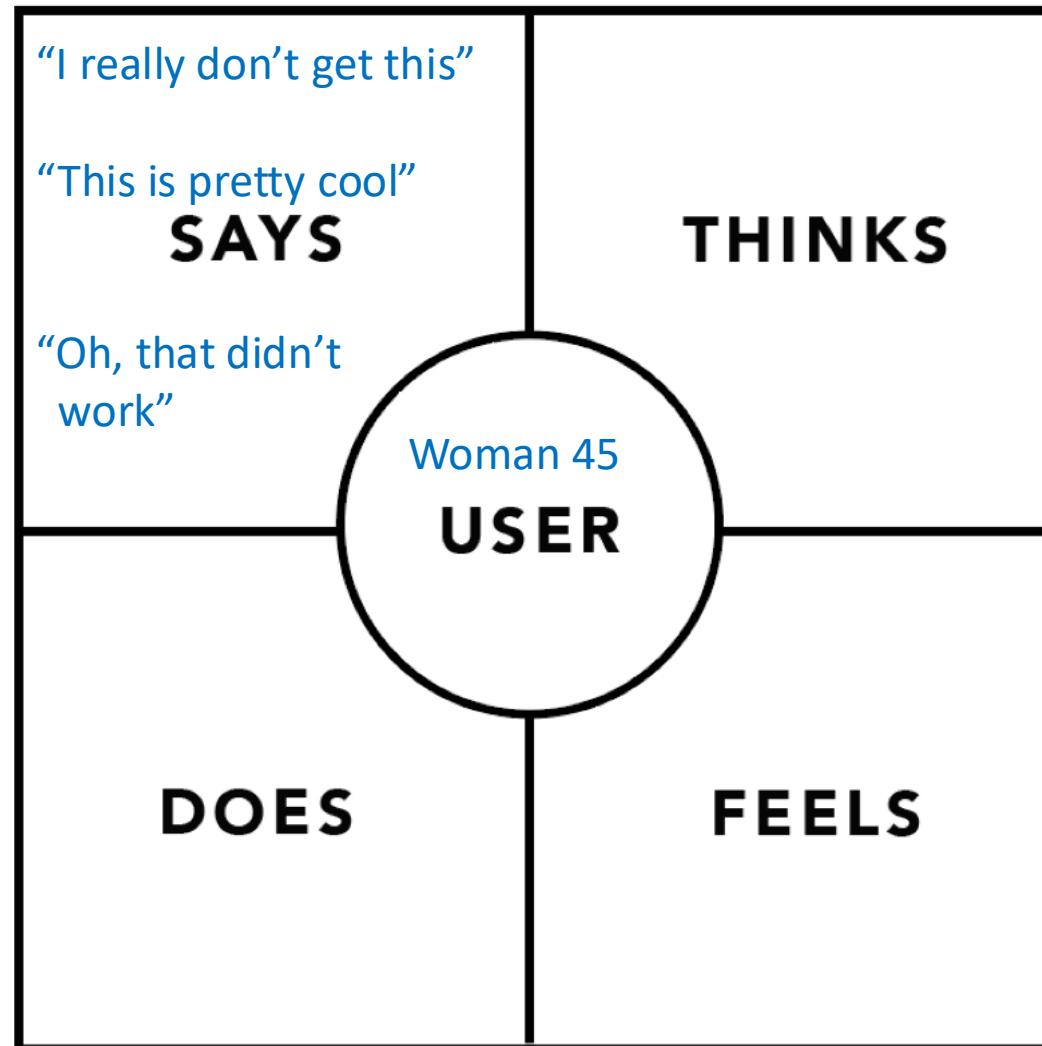
EMPATHY MAP



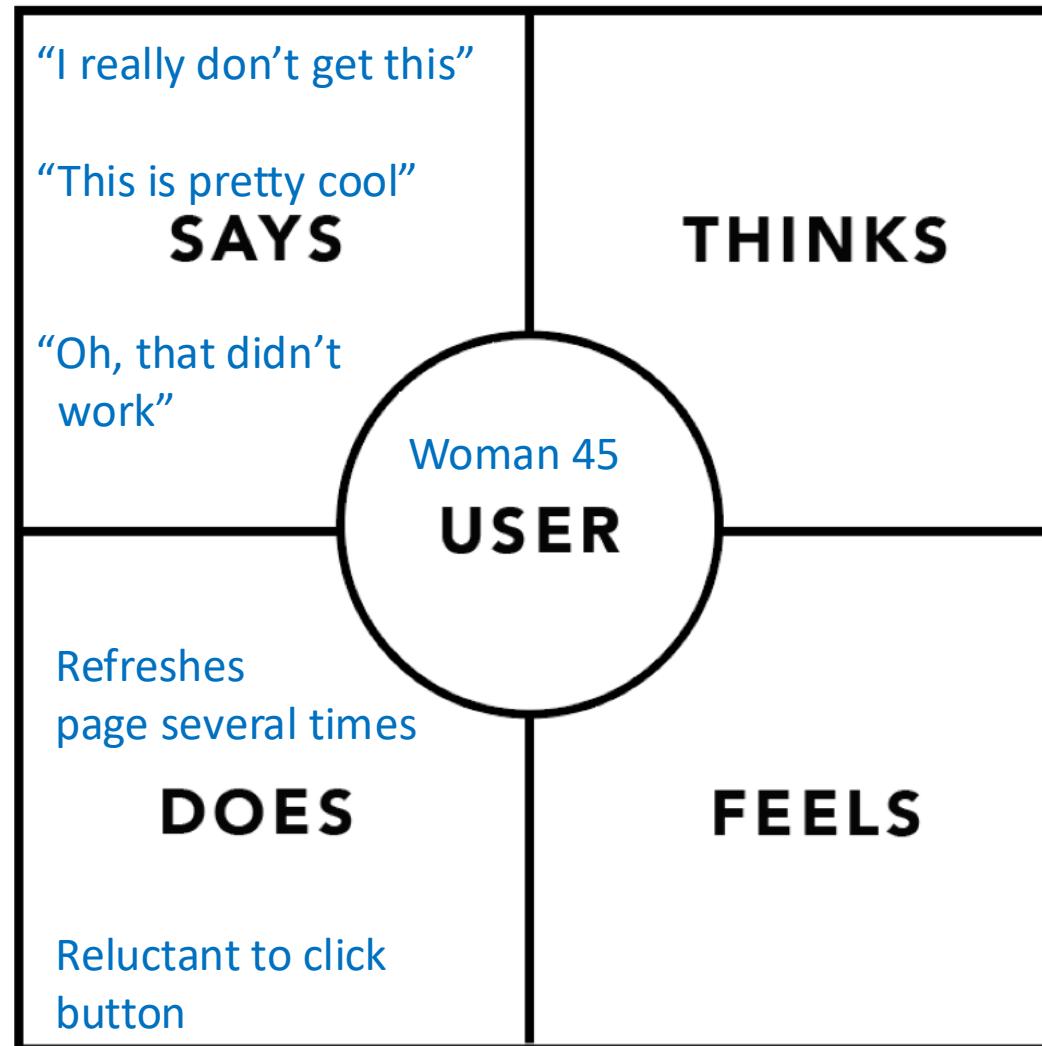
EMPATHY MAP



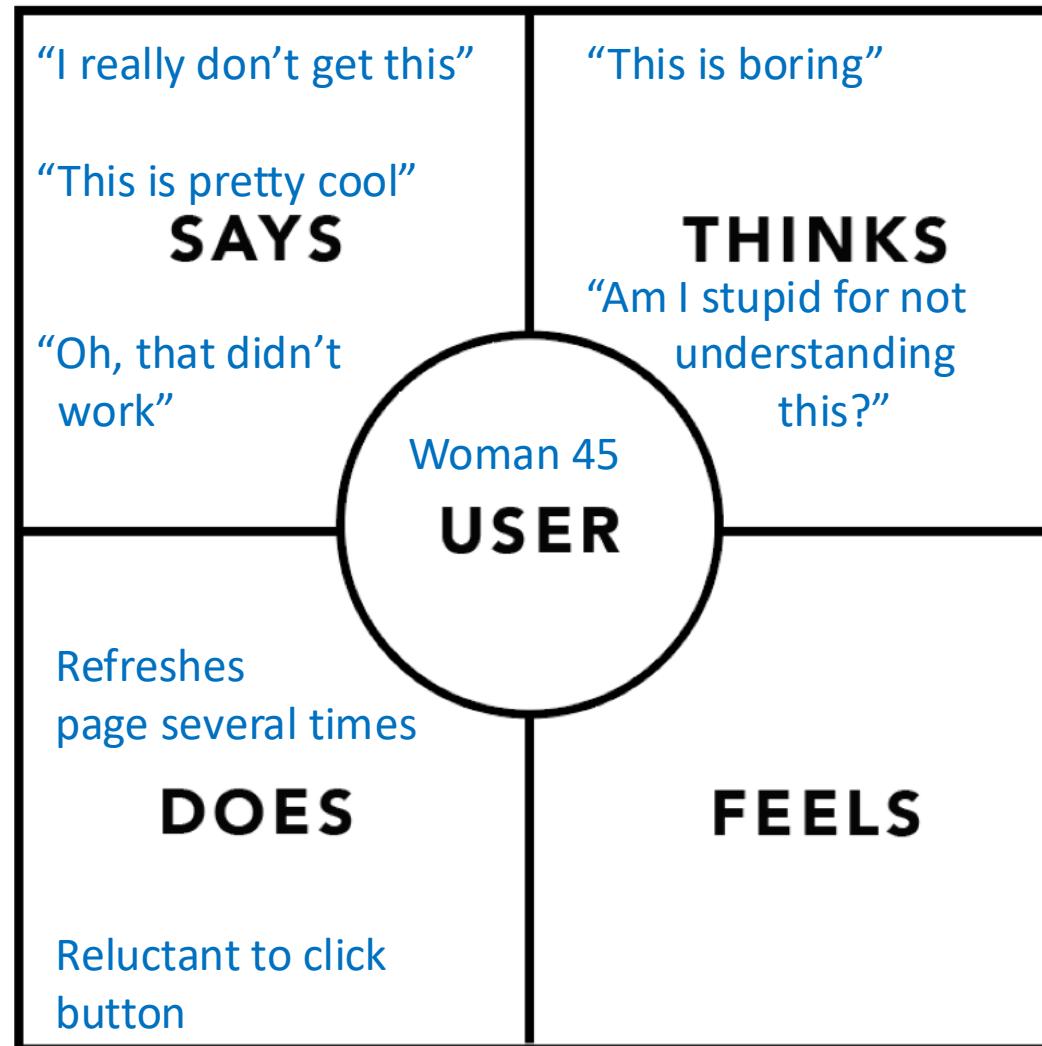
EMPATHY MAP



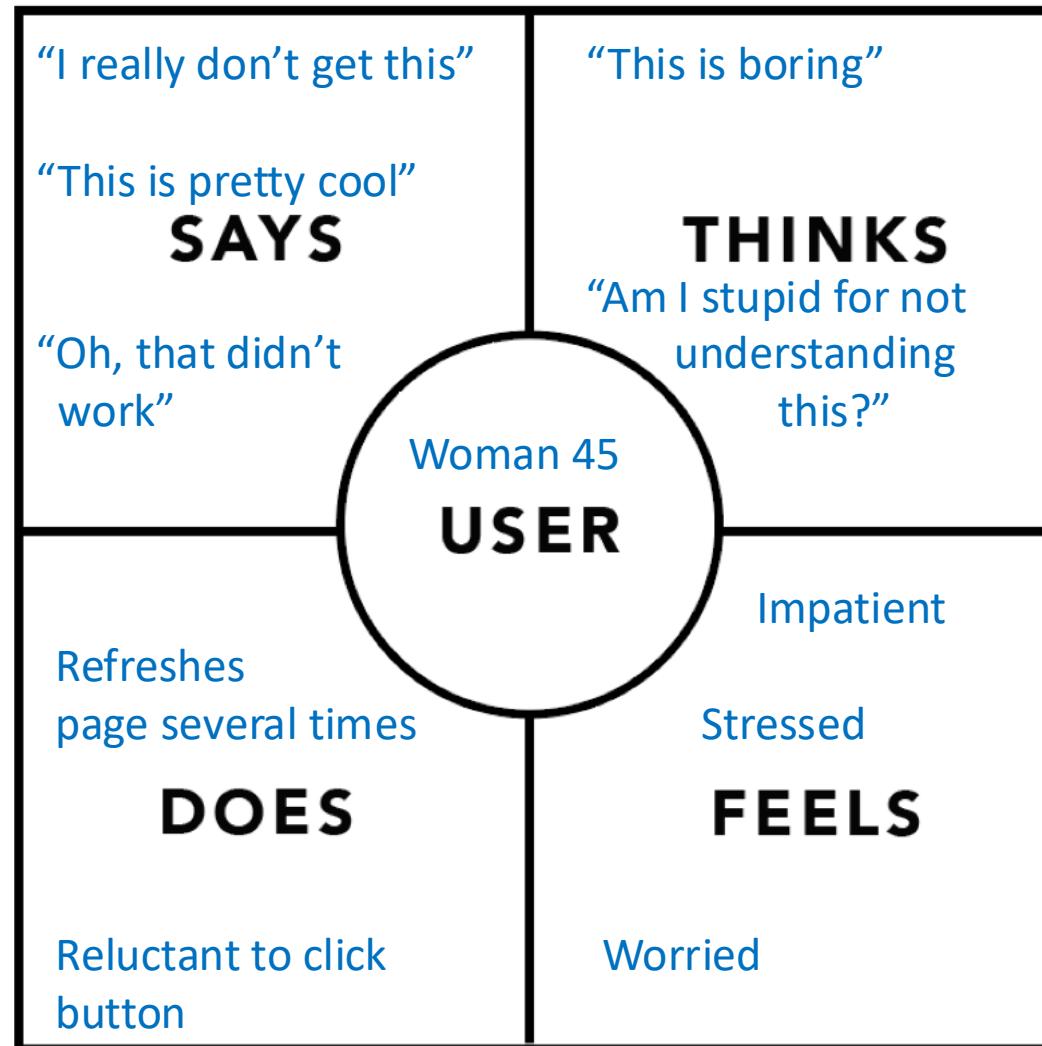
EMPATHY MAP



EMPATHY MAP

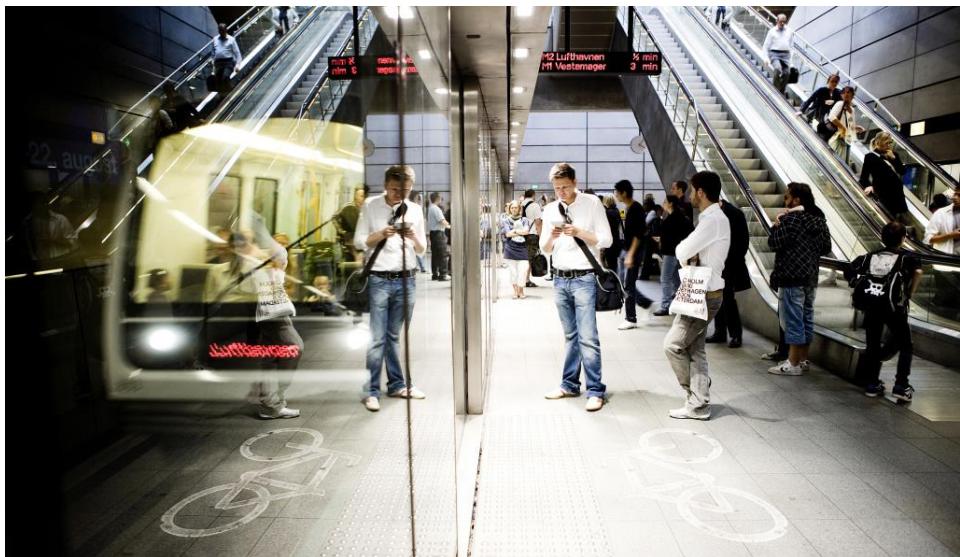


EMPATHY MAP

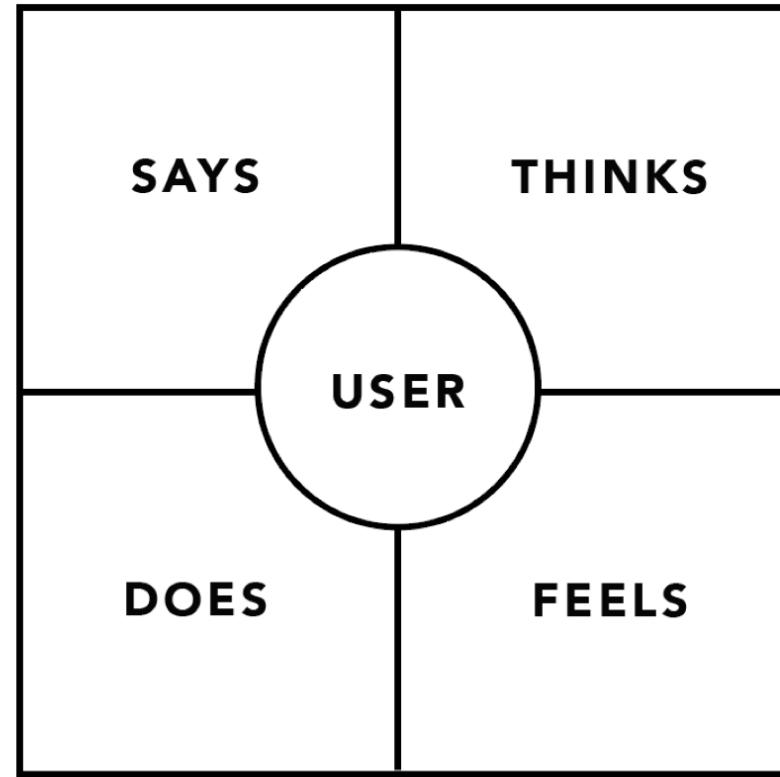


Exercise: Empathy Map

- Let's empathize with the person who check for tickets on a train
- Create an empathy map based on your own **observations** and **assumptions**



EMPATHY MAP



Persona

- An imaginary character that represents a typical person from the target audience.
- Information
 - Name, age, location
 - Image
 - Motivations, goals, frustrations
 - Preferences (brands, tech etc.)
 - Other info relevant for the project
- The information should be based on research, not assumptions



BRANDI TYLER

MUNRO
AMERICAN

PROFILE Narrow Feet

GENDER Female

AGE 36

LOCATION Los Angeles, CA

OCCUPATION Receptionist; \$38k



"It's SO difficult to buy shoes that fit my feet."

MOTIVATIONS

Brandi gets very emotional about shopping for shoes in retail stores because she rarely can find a pair that fits her narrow feet. Recently, she's turned to online shopping to avoid the hassle of shopping in stores. Brandi found Munro after Googling "narrow width shoes" and reading other reviews online about the company.

GOALS

- Needs an SS (4A) width shoe
- Would like to purchase several pairs to fit occasion, style, and color
- Hoping to find that she doesn't have to sacrifice style or options when searching by fit

FRUSTRATIONS

- Not being able to filter available shoes by width
- Getting far fewer options when she applies width filter
- No other recommended shoes when she's looking at a pair she particularly likes

REAL MUNRO CUSTOMERS

"My whole life has been a choice between fit and style - when I was younger, I went for style & my feet killed me. As an adult, I tried for fit & the styles were for 95 year olds. This shoe is the 1st time I could get both."

"I wear a 4A and I have struggled my entire life finding shoes narrow enough for my feet and more so in recent years. I stumbled onto this Munro brand sandal and was shocked to find it comes in up to a 4A width and it actually fit and is like wearing a glove! I now have two pairs in different colors."

"Love these slides so much I went out and bought two more pairs. I have very narrow feet and they fit perfectly. They're very stylish and I get compliments whenever I wear them."

Jill Anderson



"I'm looking for a site that will simplify the planning of my business trips."

AGE 29

OCCUPATION Regional Director

STATUS Single

LOCATION Portsmouth, NH

TIER Frequent Traveler

ARCHETYPE The Planner

Organized

Practical

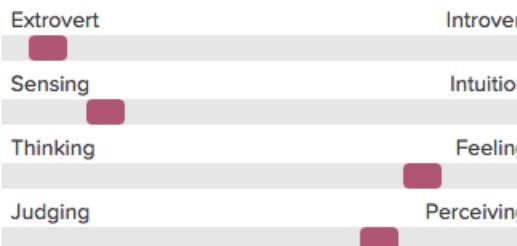
Protective

Hardworking

Bio

Jill is a Regional Director who travels 4-8 times each month for work. She has a specific region in which she travels, and she often visits the same cities and stays in the same hotel. She is frustrated by the fact that no matter how frequently she takes similar trips, she spends hours of her day booking travel. She expects her travel solutions to be as organized as she is.

Personality



Brands



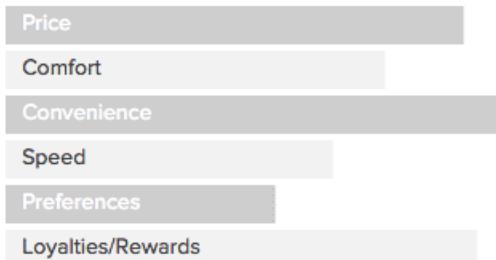
Goals

- To spend less time booking travel
- To maximize her loyalty points and rewards
- To narrow her options when it comes to shop

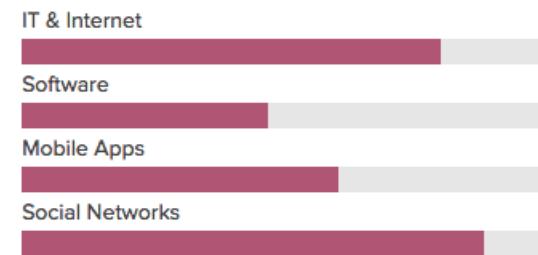
Frustrations

- Too much time spent booking - she's busy!
- Too many websites visited per trip
- Not terribly tech saavy - doesn't like the process

Motivations



Technology



Clark Andrews

AGE 26

OCCUPATION Software Developer

STATUS Single

LOCATION San Jose, CA

TIER Experiment Hacker

ARCHETYPE The Computer Nerd

Friendly

Clever

Go-Getter



"I feel like there's a smarter way for me to transition into a healthier lifestyle."

Motivations

Incentive

Fear

Achievement

Growth

Power

Social

Personality

Extrovert

Introvert

Sensing

Intuition

Thinking

Feeling

Judging

Perceiving

Goals

- To cut down on unhealthy eating and drinking habits
- To measure multiple aspects of life more scientifically
- To set goals and see and make positive impacts on his life

Frustrations

- Unfamiliar with wearable technology
- Saturated tracking market
- Manual tracking is too time consuming

Bio

Aaron is a systems software developer, a "data junkie" and for the past couple years, has been very interested in tracking aspects of his health and performance. Aaron wants to track his mood, happiness, sleep quality and how his eating and exercise habits affects his well being. Although he only drinks occasionally with friends on the weekend, he would like to cut down on alcohol intake.

Technology

IT & Internet

Software

Mobile Apps

Social Networks

Brands



User story

As a [role], I want to [goal], so that I can [benefit]





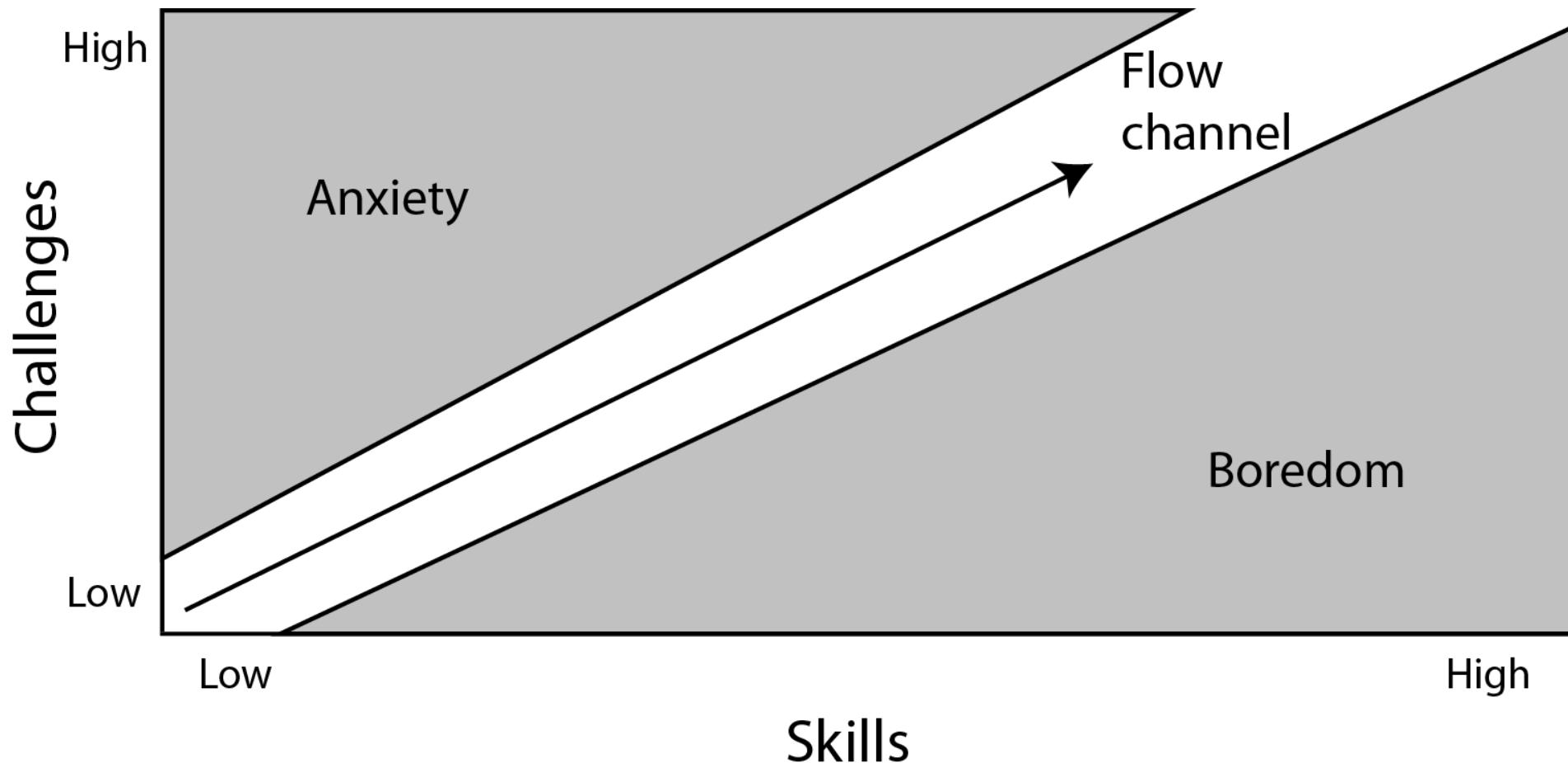
Flow as a state of mind

The mental state in which a person performing an activity is fully immersed in a feeling of focus, involvement, and enjoyment in the process.



Flow as a state of mind

Relationship between perceived challenges and perceived skills



[Google Search](#)[I'm Feeling Lucky](#)

Google offered in: [Dansk](#) [Føroyskt](#)

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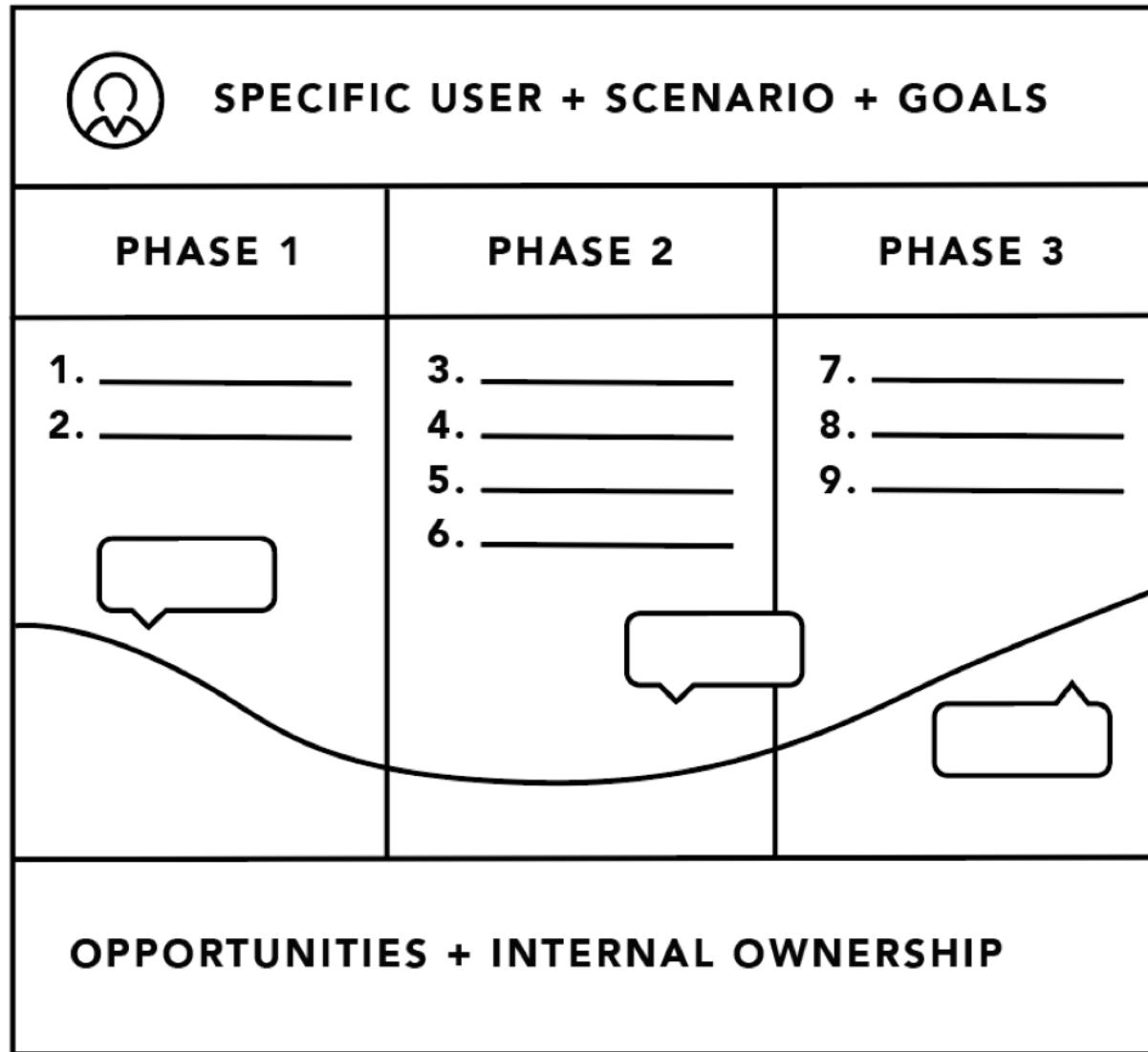
*“A lot of what we are doing is getting
design out of the way”*

– Jonathan Ive, Apple

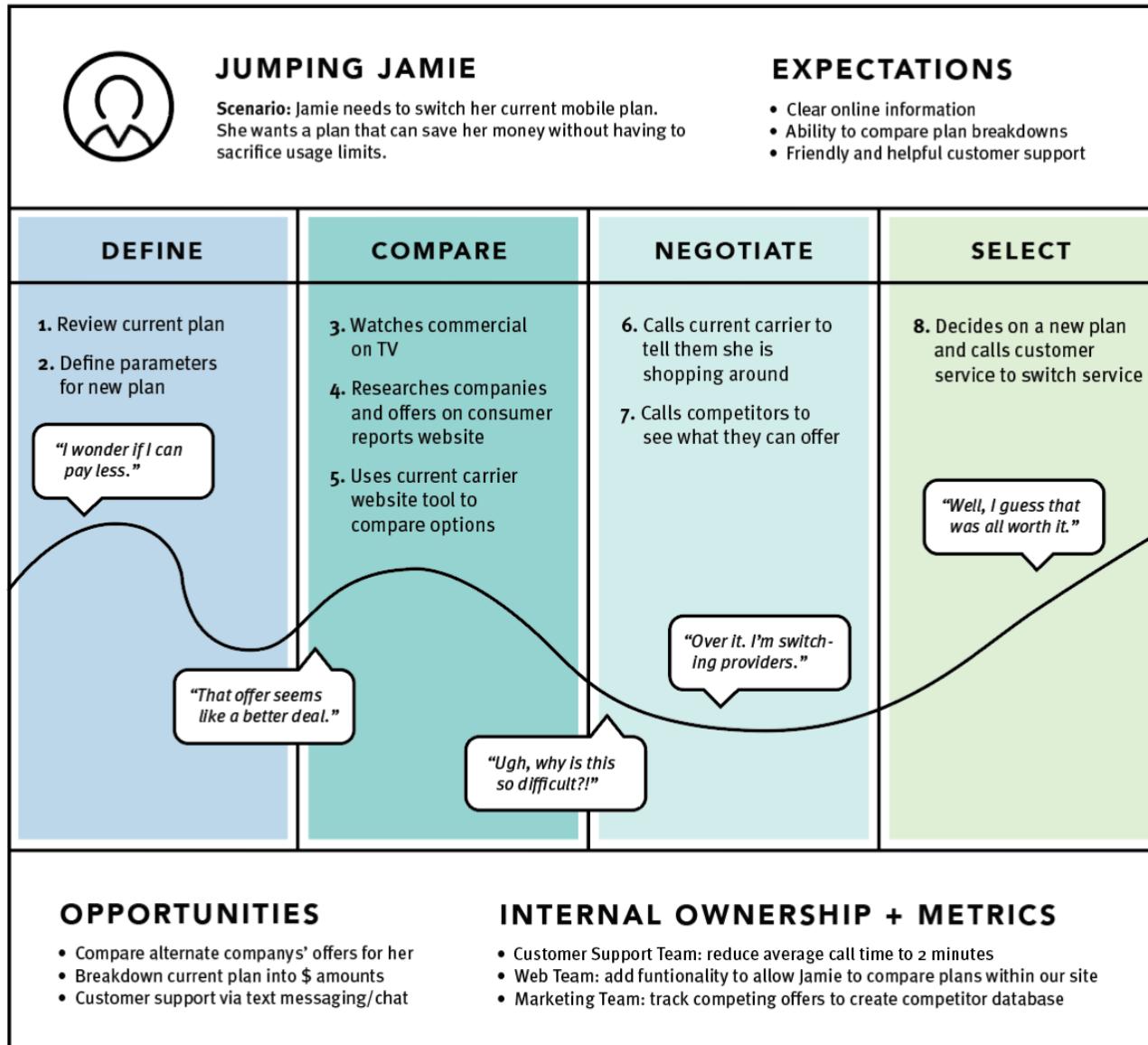
User journey map

- A user journey map is a visualization of the process that a person goes through in order to accomplish a goal
- Consists of
 - User, scenario and expectations
 - User actions on a timeline divided into phases
 - User thoughts and emotions
 - Opportunities and ownership

CUSTOMER/USER JOURNEY MAP



CUSTOMER JOURNEY MAP Example (Switching Mobile Plans)





Sarah

Scenario

Sarah is going to the movies. She is excited to go out for the night and will meet her friend at the theater.

Expectations

- Great movie
- Friendly staff
- Good seat

Decide

1. Looks up movies on phone
2. Decides which movie to see and which theater to go to
3. Buys ticket online from phone

"I wonder if I can find a closer theater."

Travel

4. Drives to movie theater
5. Stands in line and buys popcorn
6. Finds seat next to friend

"Traffic is always so bad!"

"Where is my friend?!"

Experience

7. Watches movie

"Finally I can relax."

7

Return

8. Exits theater
9. Drives home

"Where is my car?"

"It's so late now. I have to get up early."

8

9

Prefers shopping on the App

Before	Browse	Browse	Add to Cart	Payment	After
Decides to shop on Uniqlo	Browsing through the Home Screen	Select Gender Category/Product categorization Searching directly for items in mind	Adding to cart and checking up on delivery options/free delivery requirements	Paying via the App	Receiving the item and having second thoughts

Thoughts

- There are many clothing brands but Uniqlo has good quality that I can trust
- Are there any new arrivals added to the collection?
- Reasons to download the App instead of shopping on the website?
- Exclusive app discounts not available on the website?

Pain Points

- Unsure about app exclusive/seasonal promotions unless user uses the app or checks email

Thoughts

- What is the featured promotion?
- How do I navigate this app?
- Where are the navigation buttons for the different product categorization

Pain Points

- Product categorization hidden within the gender category buttons

Thoughts

- Will the search function display items that I want?
- What are the product categorizations options?
- Types of filter options within the product categories?
- What is the product information of the item? (Size guide/color/size)
- Will I be brought back to where I left the page?
- What can I pair this item with?

Pain Points

- Search function shows irrelevant choices
- Selected item/size/color is out of stock
- No filter to view choices by prices
- Cannot compare choices easily

Thoughts

- Did I manage to add the item to cart?
- How can I edit my order?
- For how long will my item be saved in the cart?
- How long will delivery take?
- How much will delivery cost?
- Have I bought enough to qualify for free delivery?

Pain Points

- Does not know how much more to qualify for free delivery
- Expensive delivery cost (\$6)

Thoughts

- What are the payment options?
- Is there a cash on delivery option?
- Are there other delivery options available?
- Has the coupon code for further discounts been autopopulated?

Pain Points

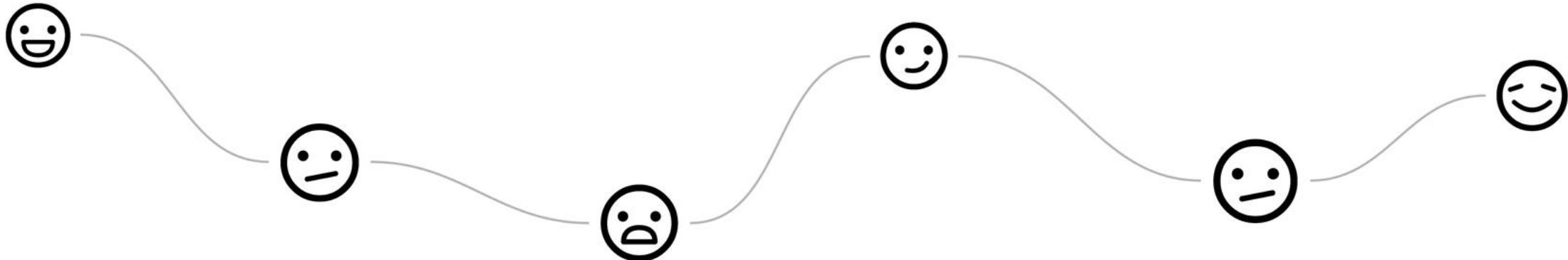
- Lack of alternative payment options
- Discount code from email has to be manually entered
- Payment details not remembered

Thoughts

- No longer like the purchased item
- What is the duration limit of the refund/exchange policy?
- Where can I find the returns/exchange instructions?
- No time to go to the physical store to do a return/exchange

Pain Points

- Unable to find time to refund/exchange the purchase in store before the duration limit



Opportunities	Opportunities	Opportunities	Opportunities	Opportunities	Opportunities
<ul style="list-style-type: none"> - Send a push notification to inform users of the latest promotions/App exclusive discounts - Push notification settings frequency level catered to individual's preference - Other marketing methods such as emails/social media to bring awareness of Uniqlo App 	<ul style="list-style-type: none"> - Display essential navigational buttons more visibly - in main navigation 	<ul style="list-style-type: none"> - Filter option for size/color/prices - Display product categories visibly - Recommend related items 	<ul style="list-style-type: none"> - Clarity in delivery cost: State delivery target for free delivery when an item is added to cart 	<ul style="list-style-type: none"> - Autofill discount codes - Clarity in delivery methods and fees - Providing more payment options: Cash-on-delivery - Issuing coupon codes through different marketing channels: Push notifications 	<ul style="list-style-type: none"> - Providing a pickup method for exchange - Well-documented returns process - Returns procedures included in package

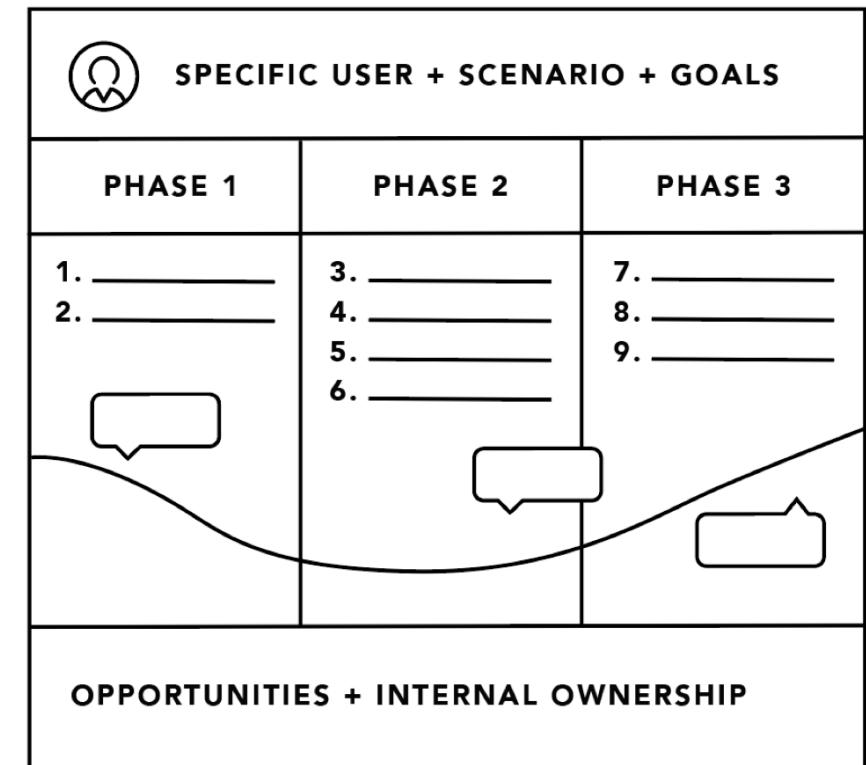


Exercise: Create a journey map for your morning routine

Scenario: You wake up, get ready, and go to school

- Define user actions – what do you do every morning?
- Group actions into phases
- Emotional ups and downs?
- Opportunities: How can the experience be optimized?

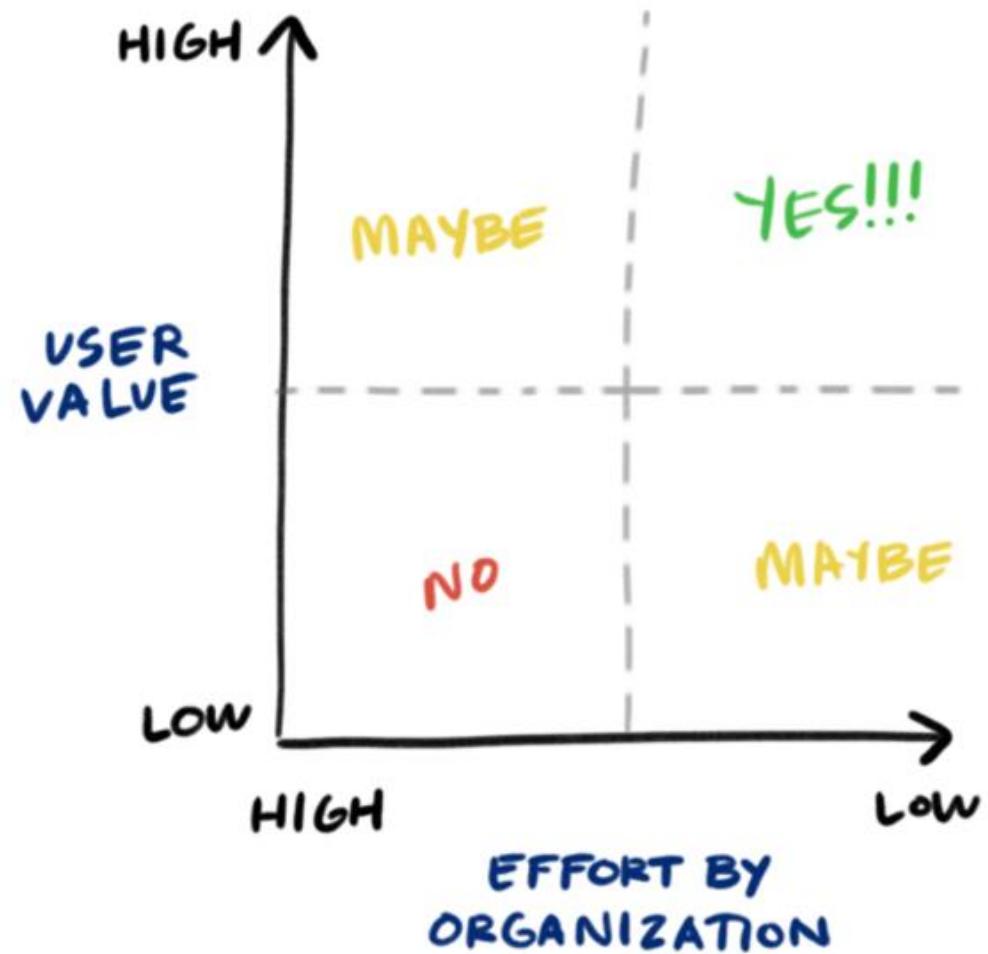
CUSTOMER/USER JOURNEY MAP



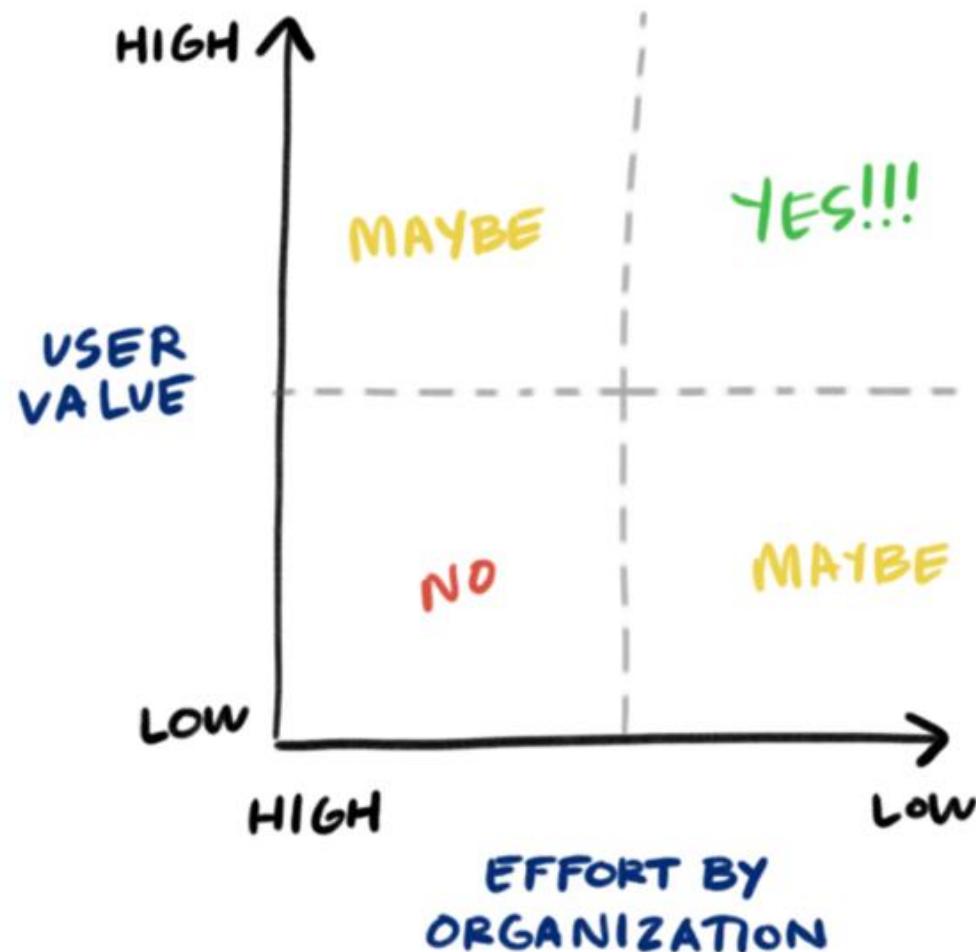
Prioritization matrix

What new features to implement?

- **Low hanging fruits**
High value, low effort
- **Big bets**
High value, high effort
- **Maybes**
Low value, low effort
- **Not worth it**
Low value, high effort

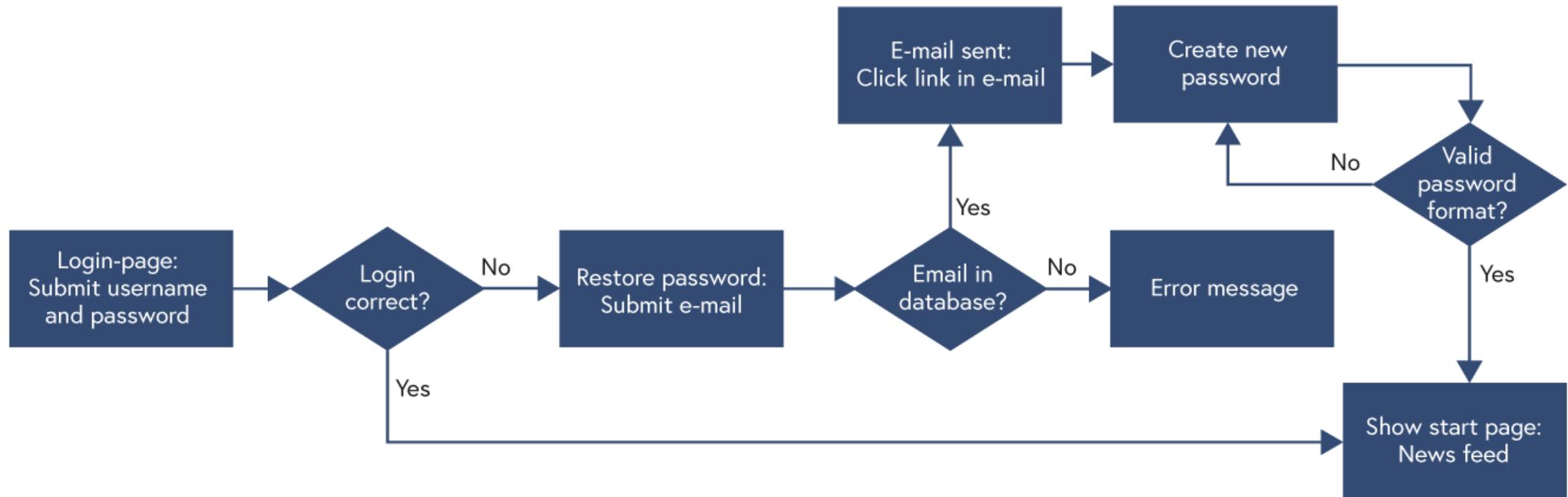


Exercise: Prioritize the opportunities from your morning routine



Flowchart

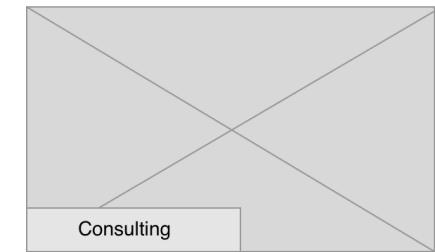
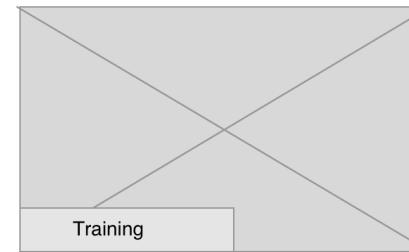
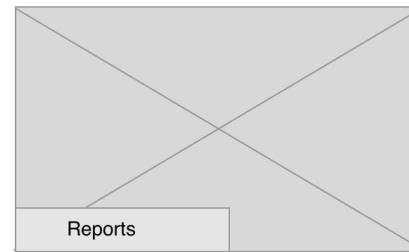
A diagram representing a process



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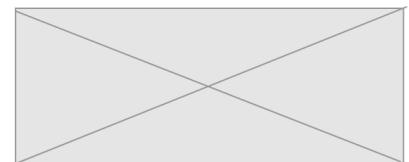


Wireframe

Layout with content placeholders
but no interactions or visual design

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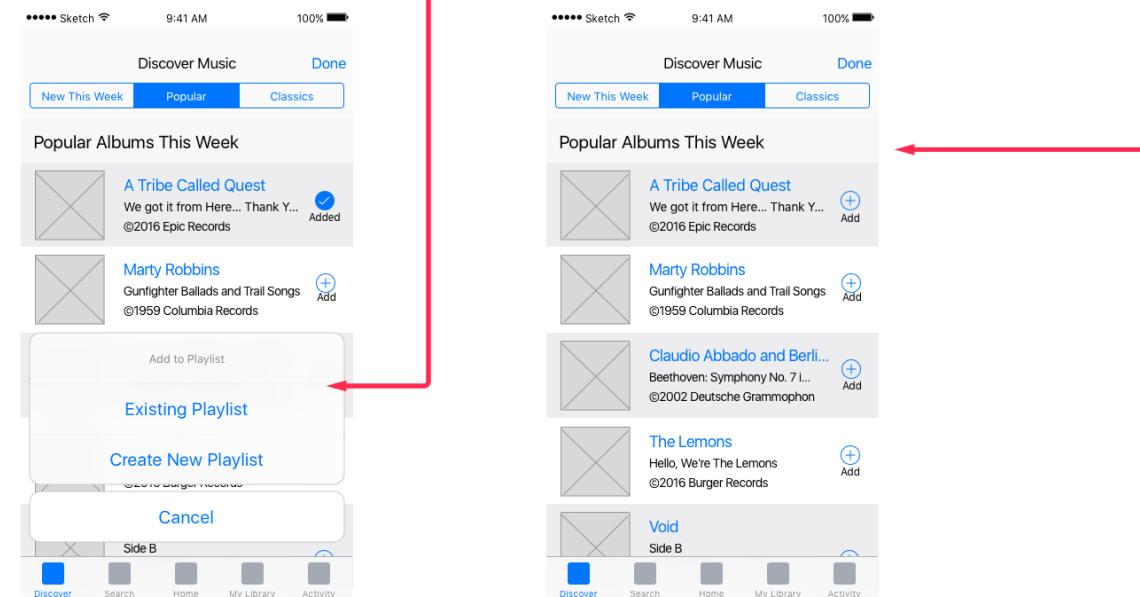
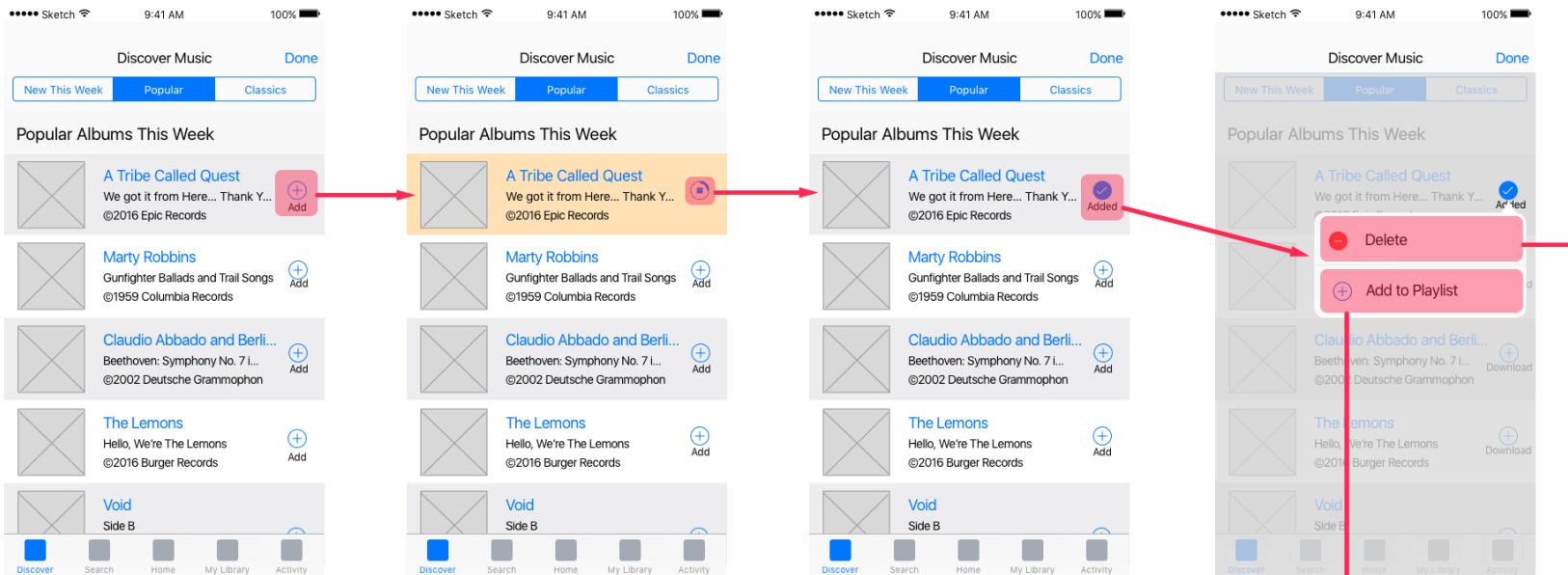
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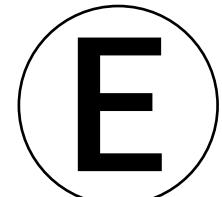
FEB. 28, 2016

[Using the Microsoft Desirability Toolkit to Test Visual Appeal](#)

“Wireflow”

Combining wireframes and flowcharts





Environmental sustainability

The Visible UI Design

Design decisions the user sees and interacts with:

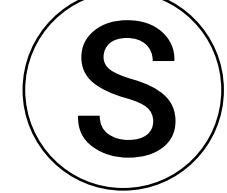
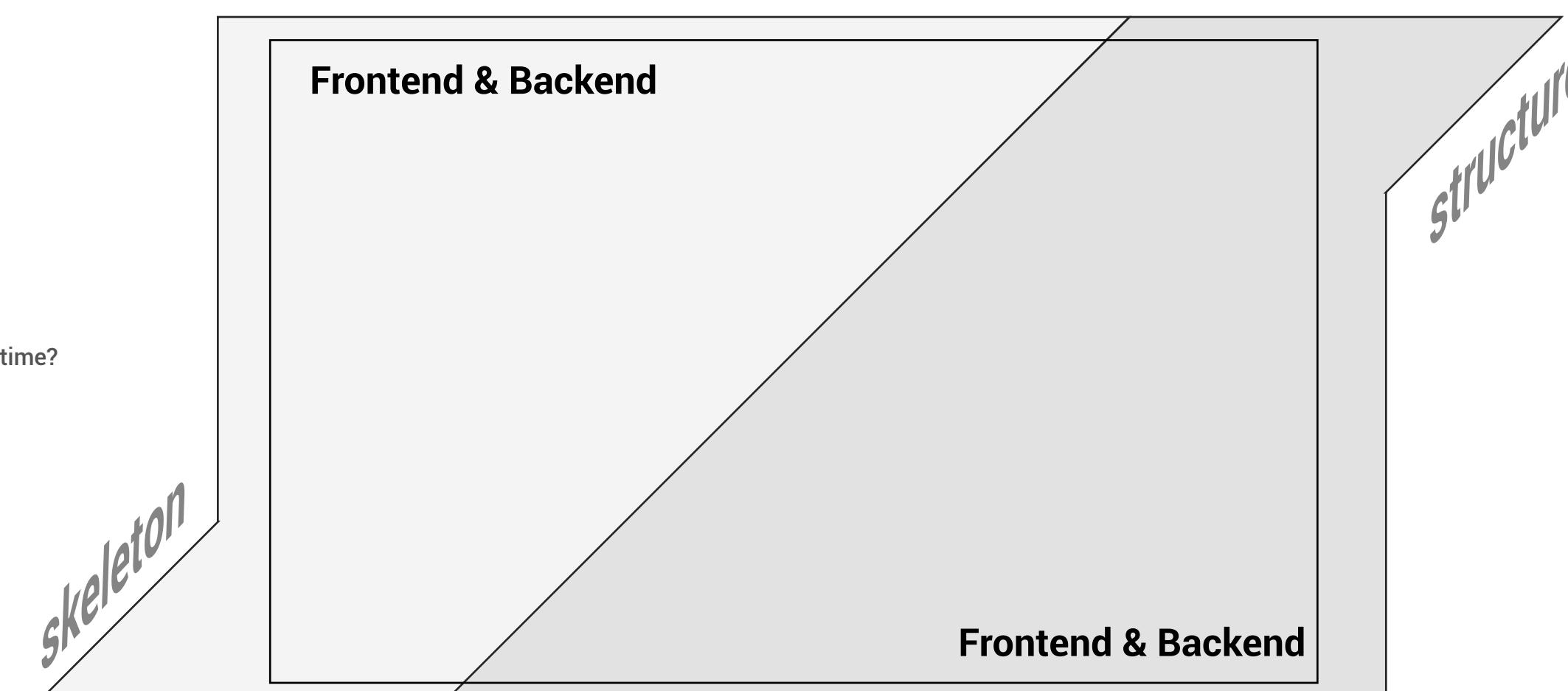
- How do we show that the solution is sustainable?
- Can we simplify or lighten the visual design?
- Do we give users control over heavy elements like images or video?
- Do our visual choices support energy efficiency?
- Are we guiding users toward more sustainable decisions?



The Invisible Design

Technical decisions behind the user experience:

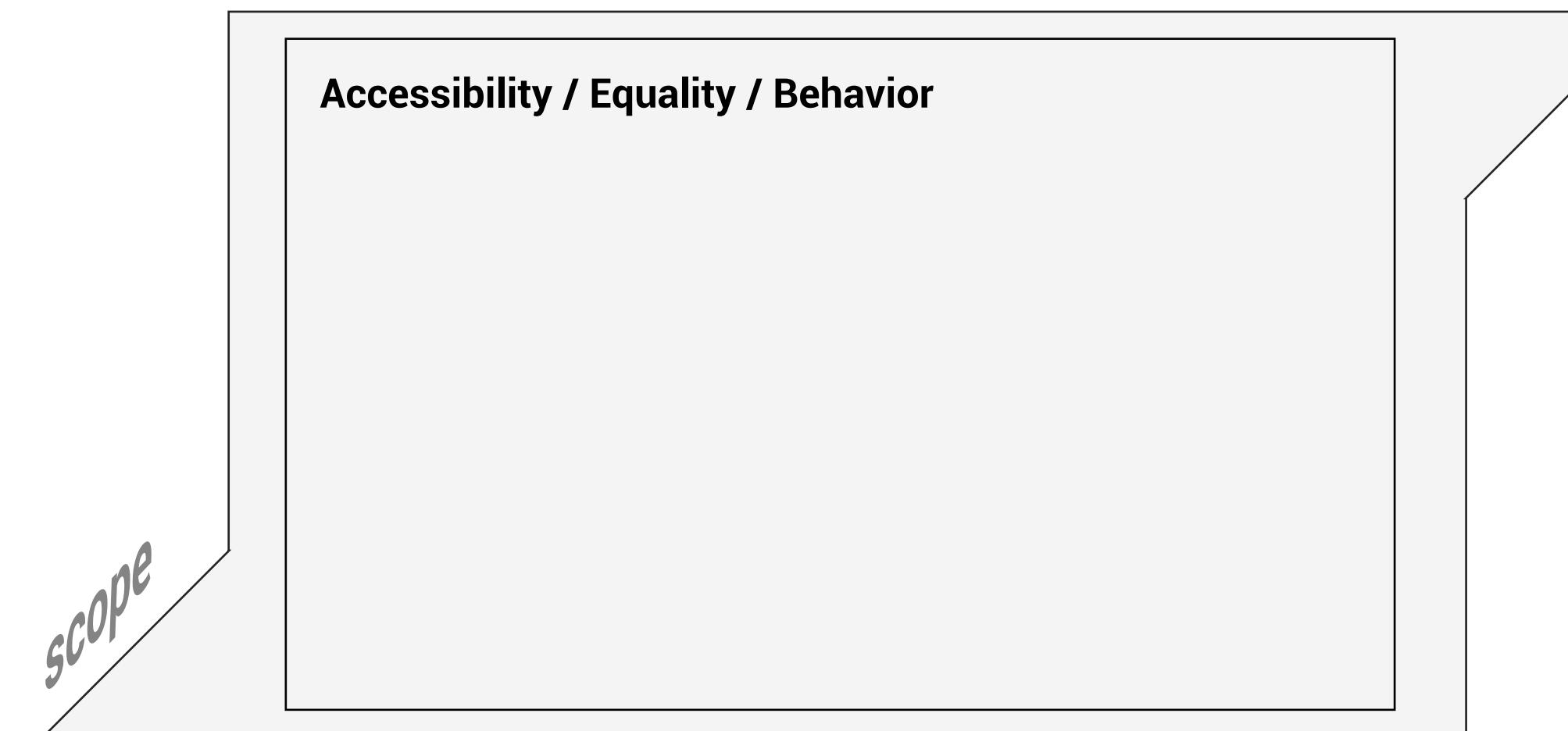
- What are we doing to reduce energy and data consumption?
- Is our solution fast and lightweight to load?
- Is our code and data management optimized for sustainability?
- Have we chosen sustainable servers and technologies?
- Are we caching effectively to reduce data transfers and loading time?



Social Sustainability

Reflections on inclusion, ethics, and behavior:

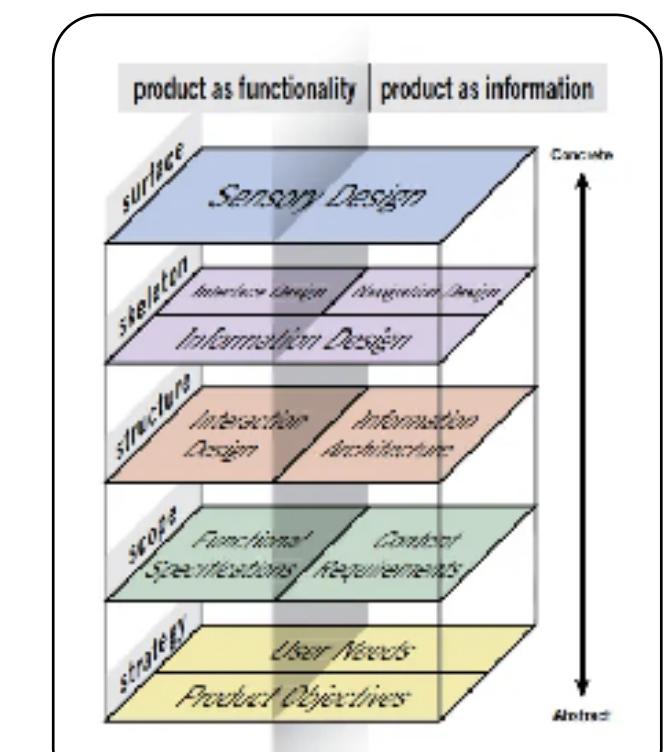
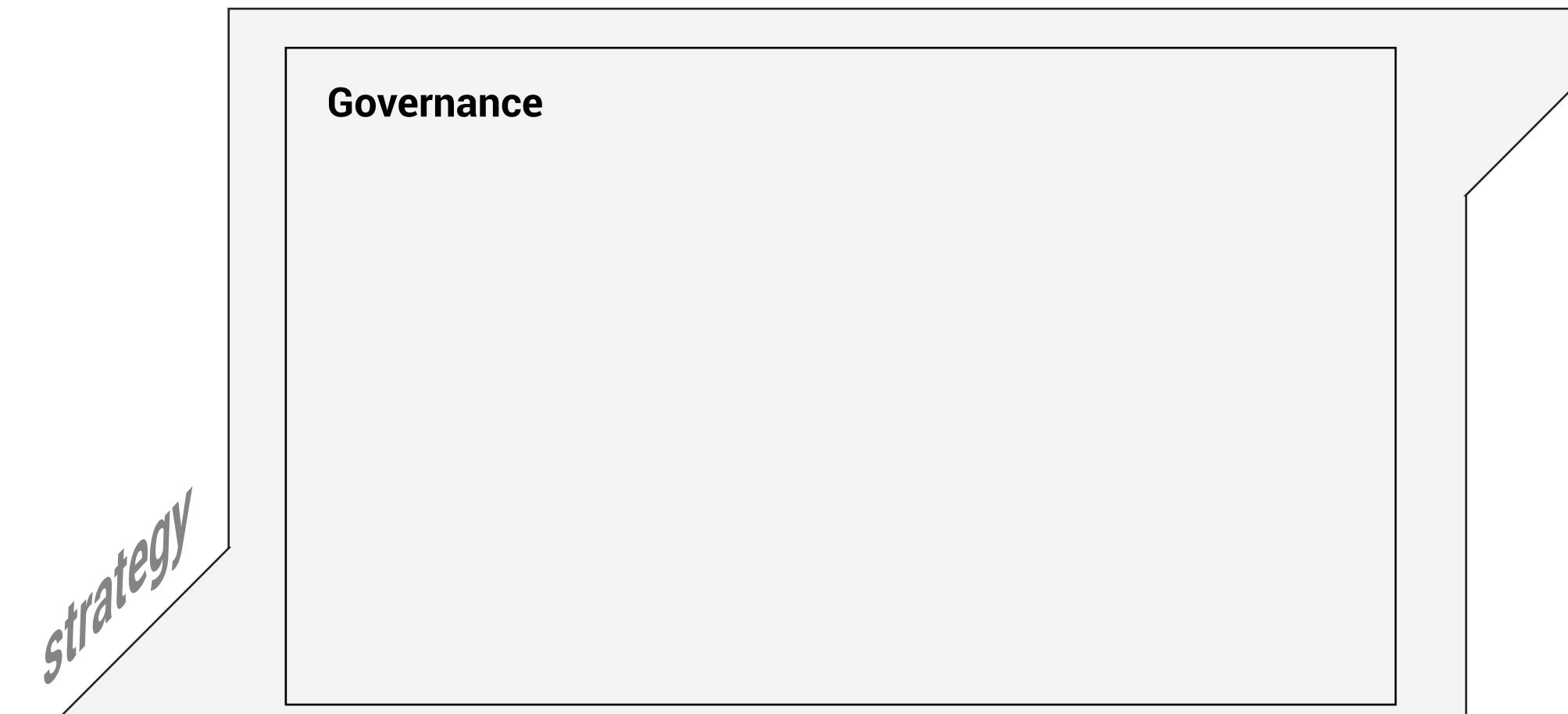
- Is our design inclusive and accessible to all?
- Do we respect the user's time and choices?
- Are we avoiding dark patterns?
- Do we guide users toward conscious decisions?
- Are all users fairly represented?



Governance

Ethical principles, processes, and strategic anchoring:

- Is there a strategy or process for sustainable UX?
- Are designers supported in making responsible choices?
- Is sustainability embedded throughout the digital solution?
- Do we follow ethical principles—even when it's challenging?



The Elements of UX, GARRETT, 2011