Cognitive UX

Using cognitive science and psychology to drive UX design

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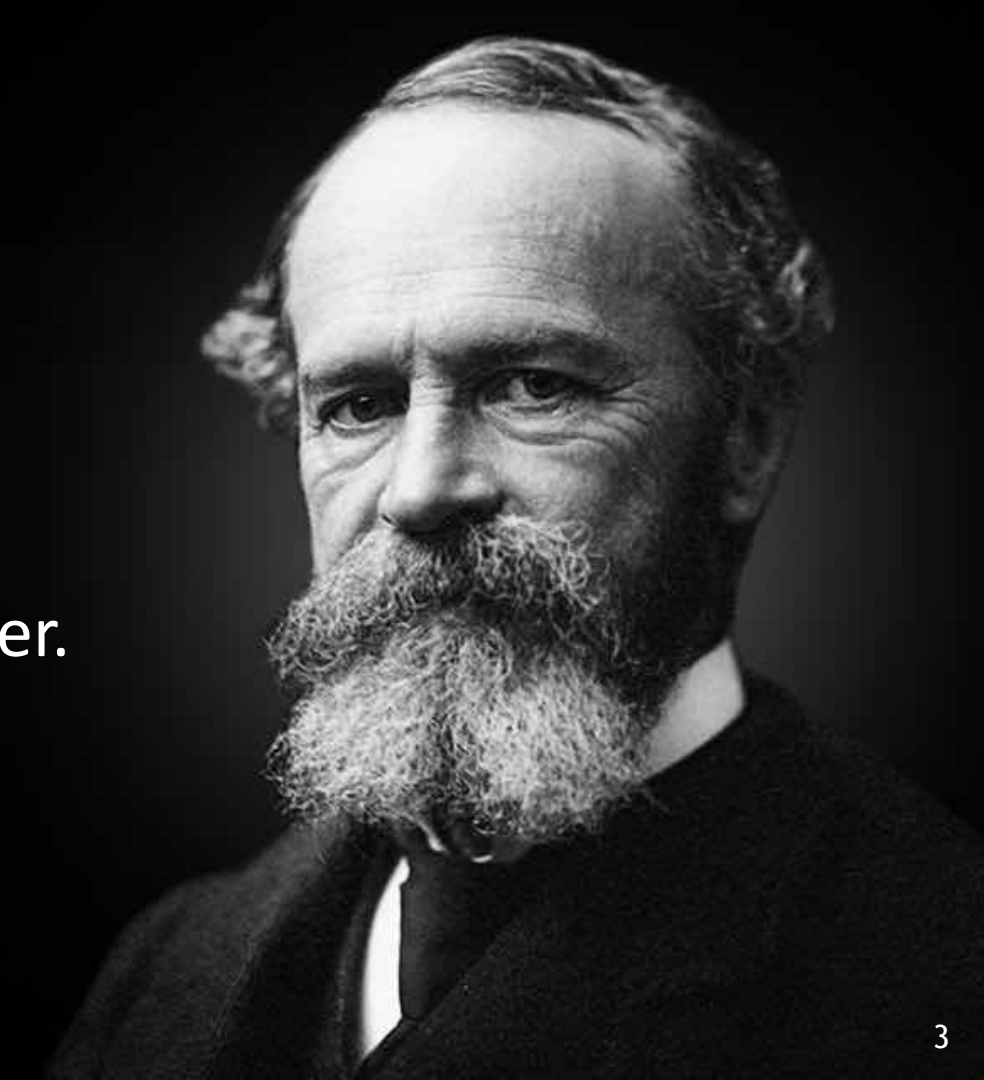
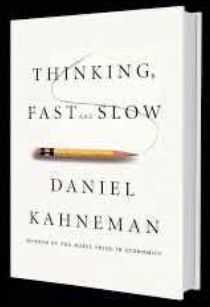
UX and Product Manager

“ The greatest weapon against stress is our ability to choose one thought over the other.

William James, 1842 - 1910

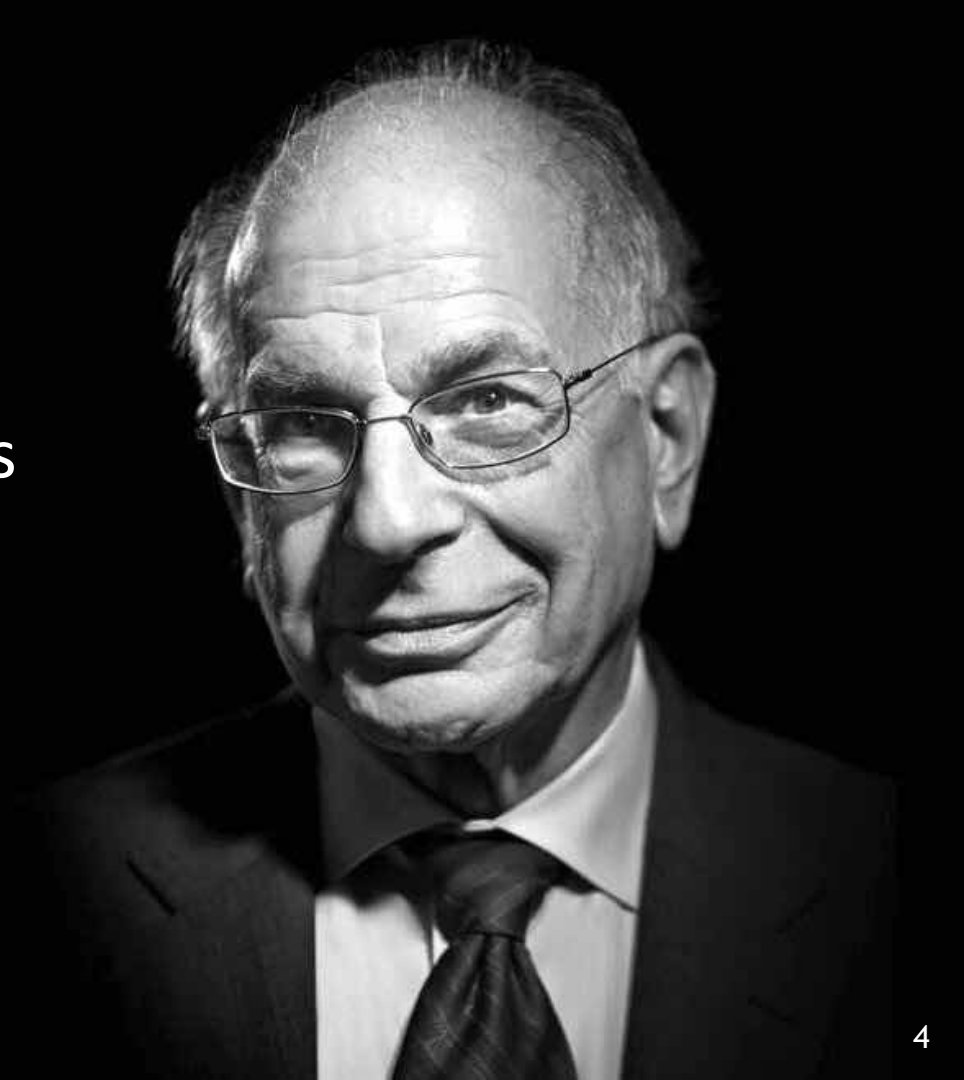


“Intuition is nothing more and nothing less then recognition.



Daniel Kahneman

“Thinking fast and slow”, 2011



Dual Process Model

System 1 - Intuition

Fast

Always on

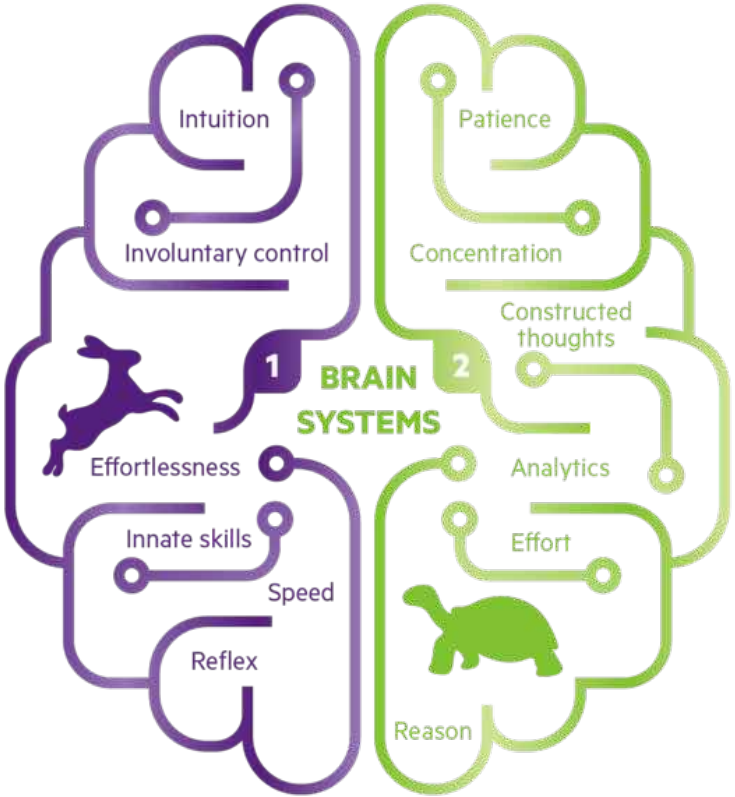
Automatic

Unconscious

Hot

Heuristic

Error prone



System 2 - Reflection

Slow

On demand

Deliberate

Conscious

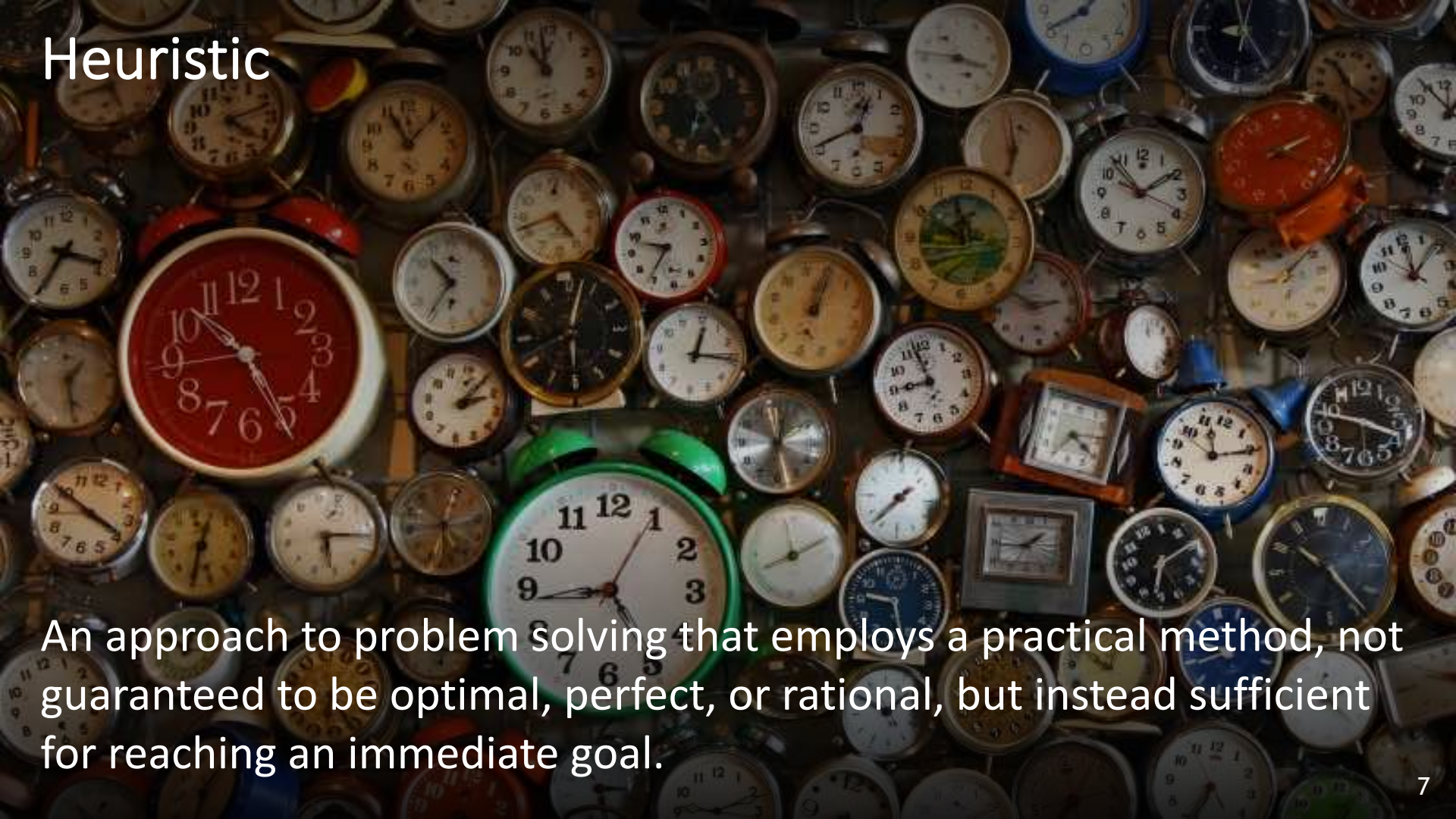
Cold

Analytic

Reliable

System 1 usually wins the race!

Heuristic



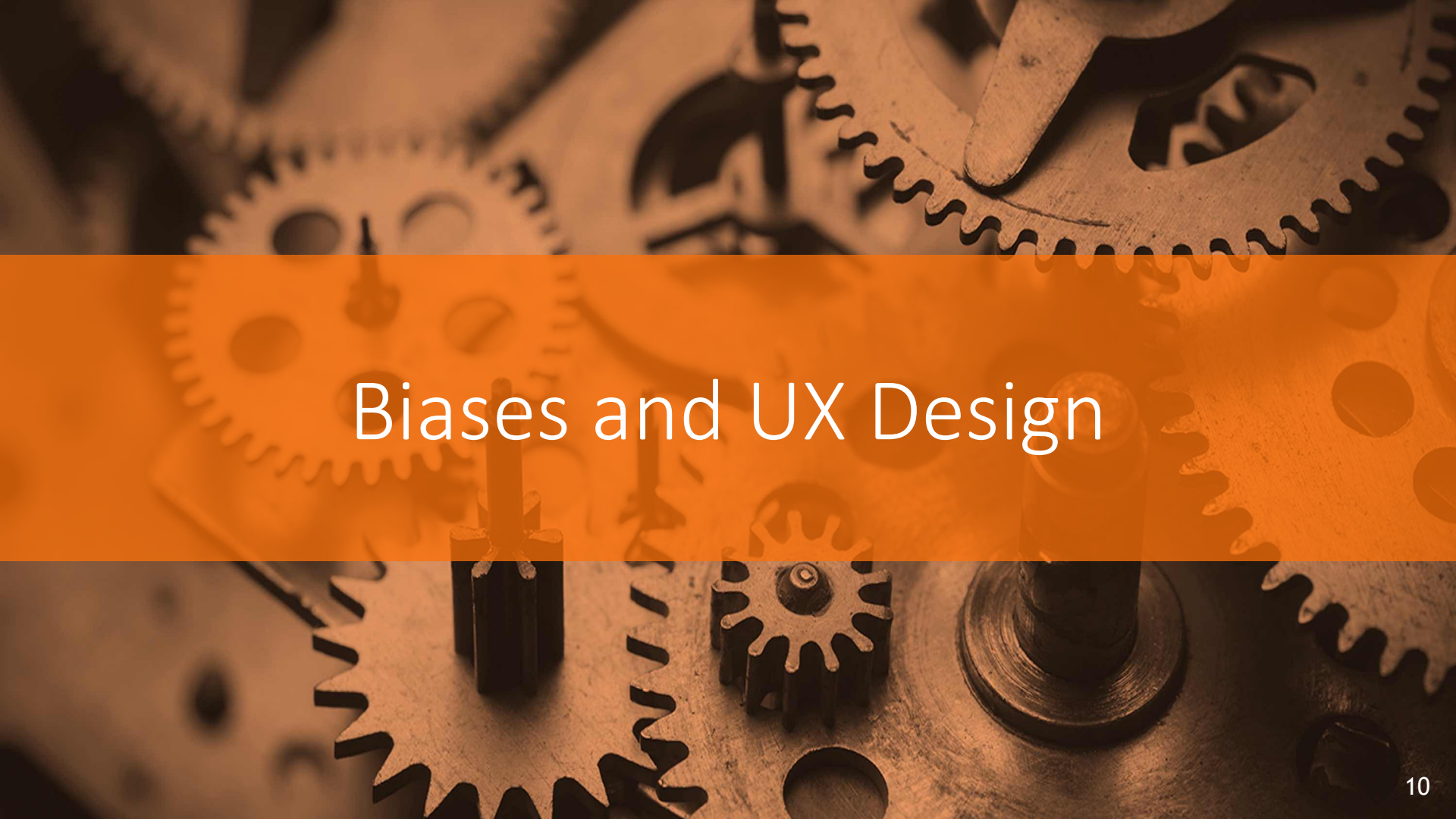
An approach to problem solving that employs a practical method, not guaranteed to be optimal, perfect, or rational, but instead sufficient for reaching an immediate goal.

Cognitive Biases

Systematic patterns of deviation from norm or rationality in judgment.

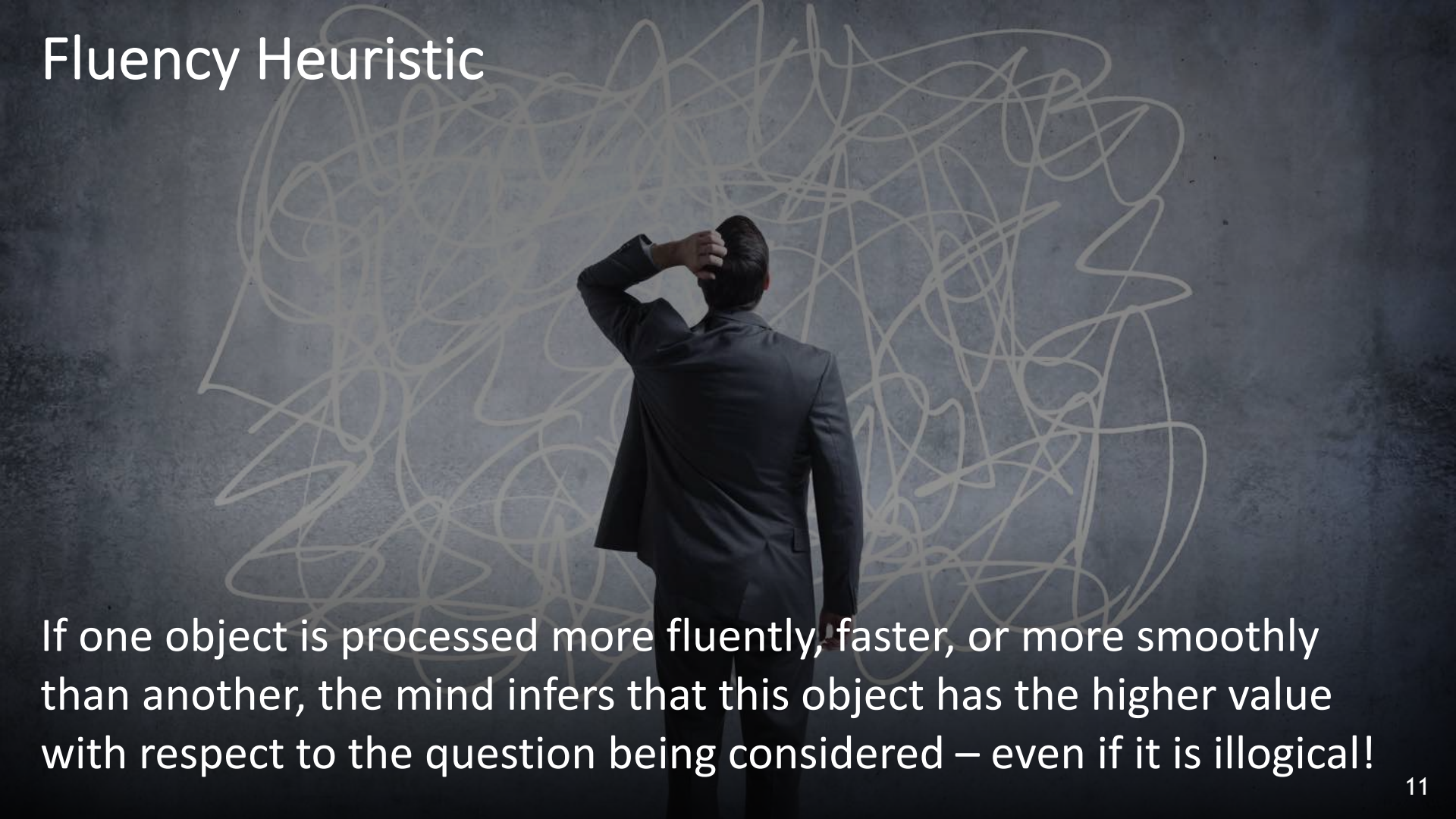
Blind Spot Bias

The tendency to see oneself as less biased than other people



Biases and UX Design

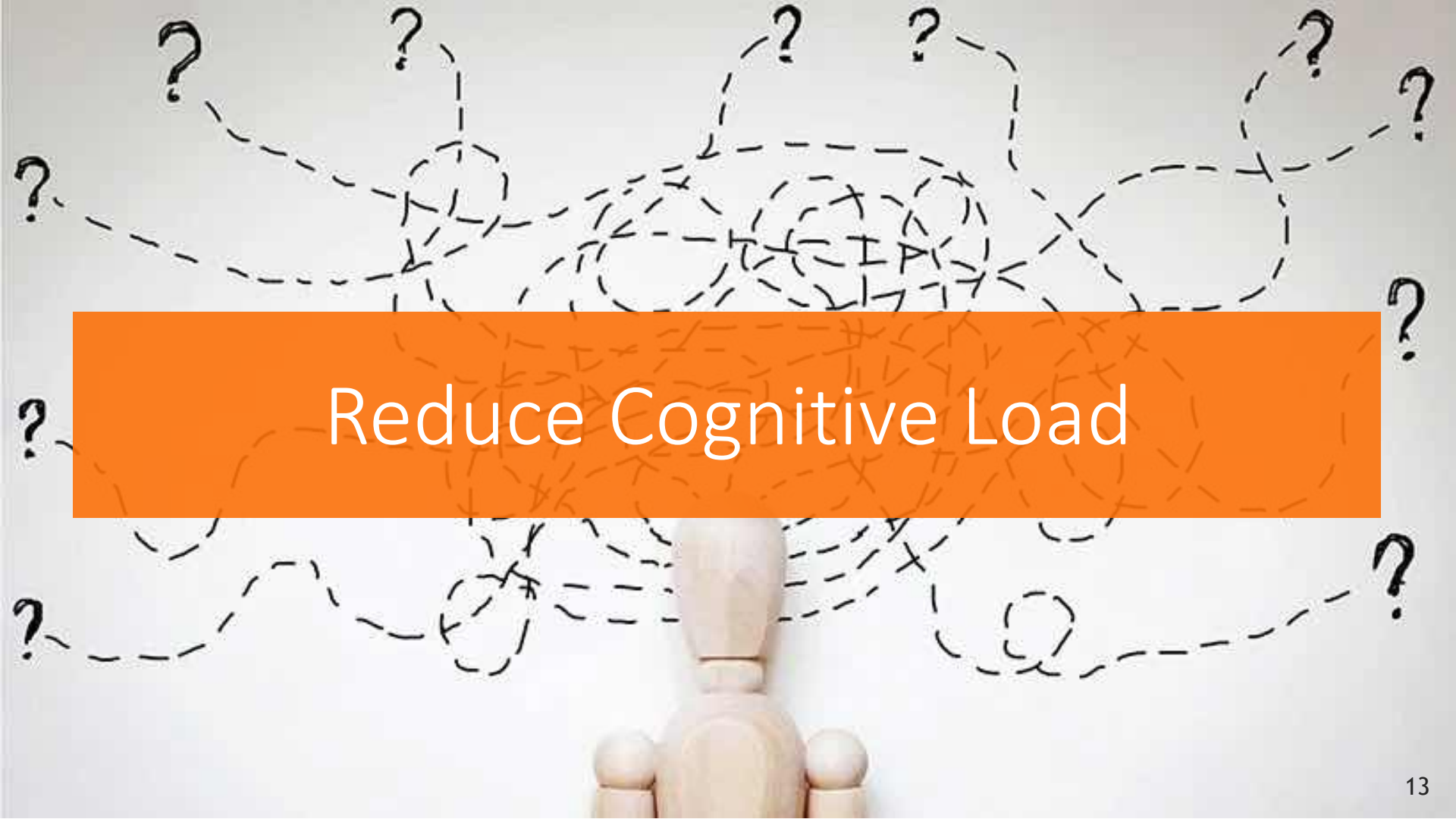
Fluency Heuristic



If one object is processed more fluently, faster, or more smoothly than another, the mind infers that this object has the higher value with respect to the question being considered – even if it is illogical!

Illusory Truth effect

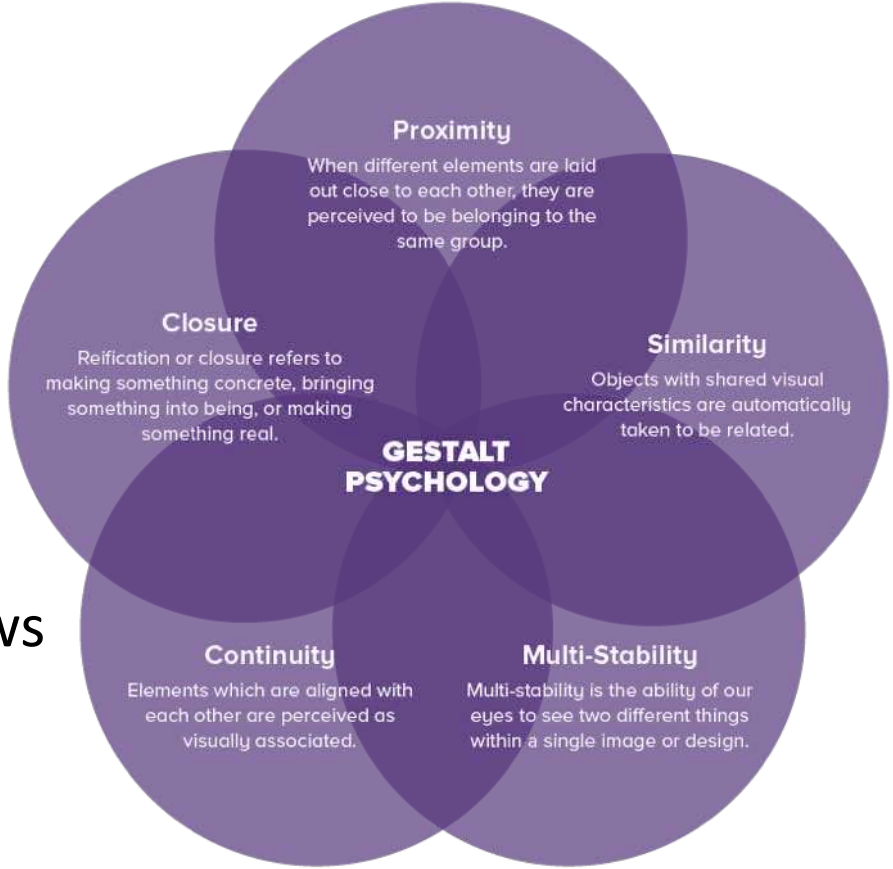
A tendency to believe that a statement is true if it is easier to process, or if it has been stated multiple times, regardless of its actual veracity.



Reduce Cognitive Load

Visual Hierarchy

- Visual hierarchy is one of the core techniques which are applied to the design process.
- It is initially based on Gestalt psychological theory which examines users' visual perception of elements in relation to each other and shows how people tend to unify the visual elements into groups.



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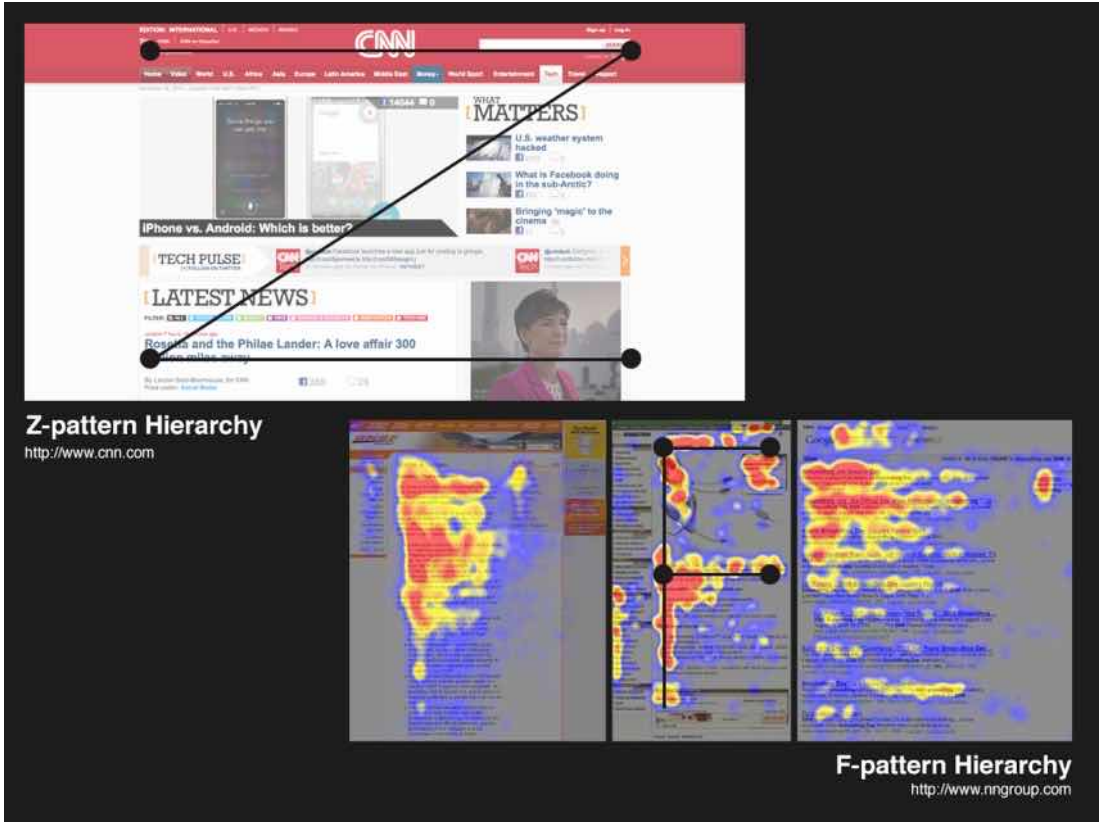
Visual hierarchy tools

- Size
- Color
- Contrast
- Negative space
- Proximity
- Repetition
- Texture and style
- Typography hierarchy

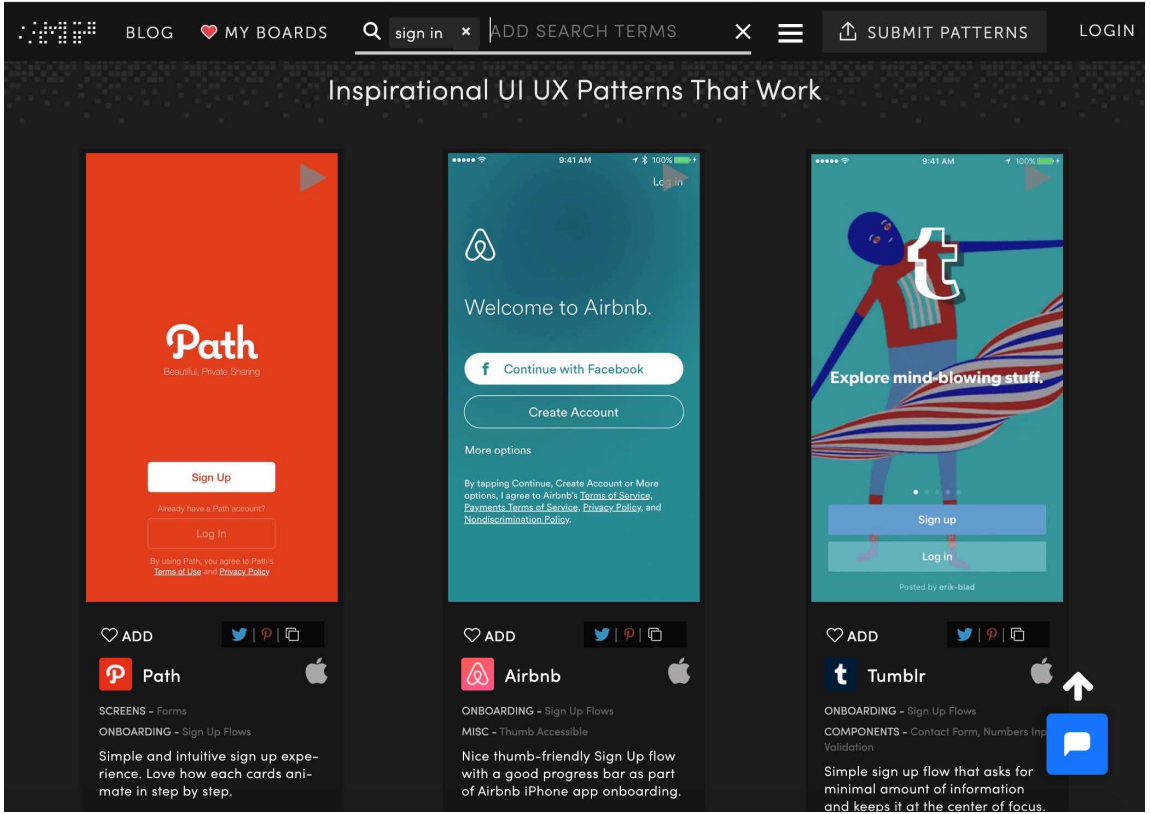
Consider scanning patterns

- Z-shaped pattern takes place on the pages which are not heavily concentrated on copy.
- F-pattern appears on digital pages or screens with big amount of content (blogs, news platforms etc.)
- Put all the core UI elements on the most scanned spots to draw users' attention.



Design Patterns

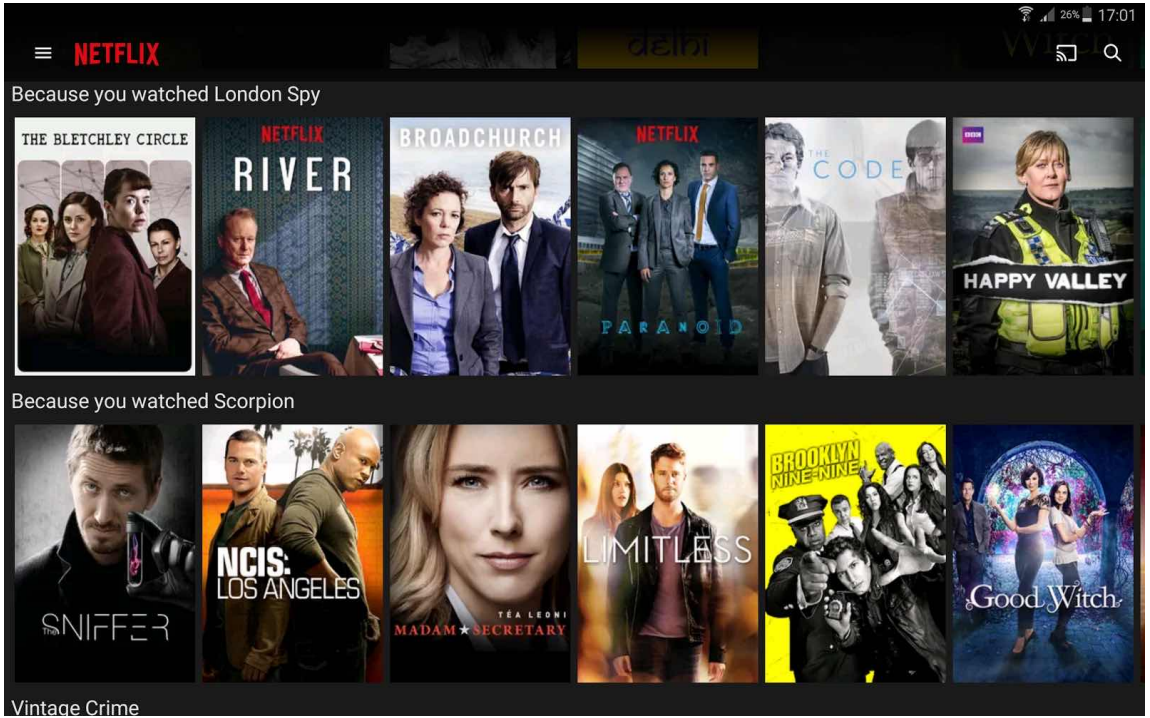
- Leverage common design patterns
- Keep your UIs consistent
- Adopt a design system



https://www.mobile-patterns.com/

Less is more

- Avoid unnecessary options
- Reduce number of choices
- Consider personalization and anticipatory design



Aesthetic-usability effect

Users often perceive aesthetically pleasing design as design that’s more usable.

Aesthetically pleasing design…

Can make users develop feelings towards the product

Halo Effect

…and it works both ways!

Horn Effect

Aesthetically pleasing design…

- Can make users more tolerant of minor usability issues.

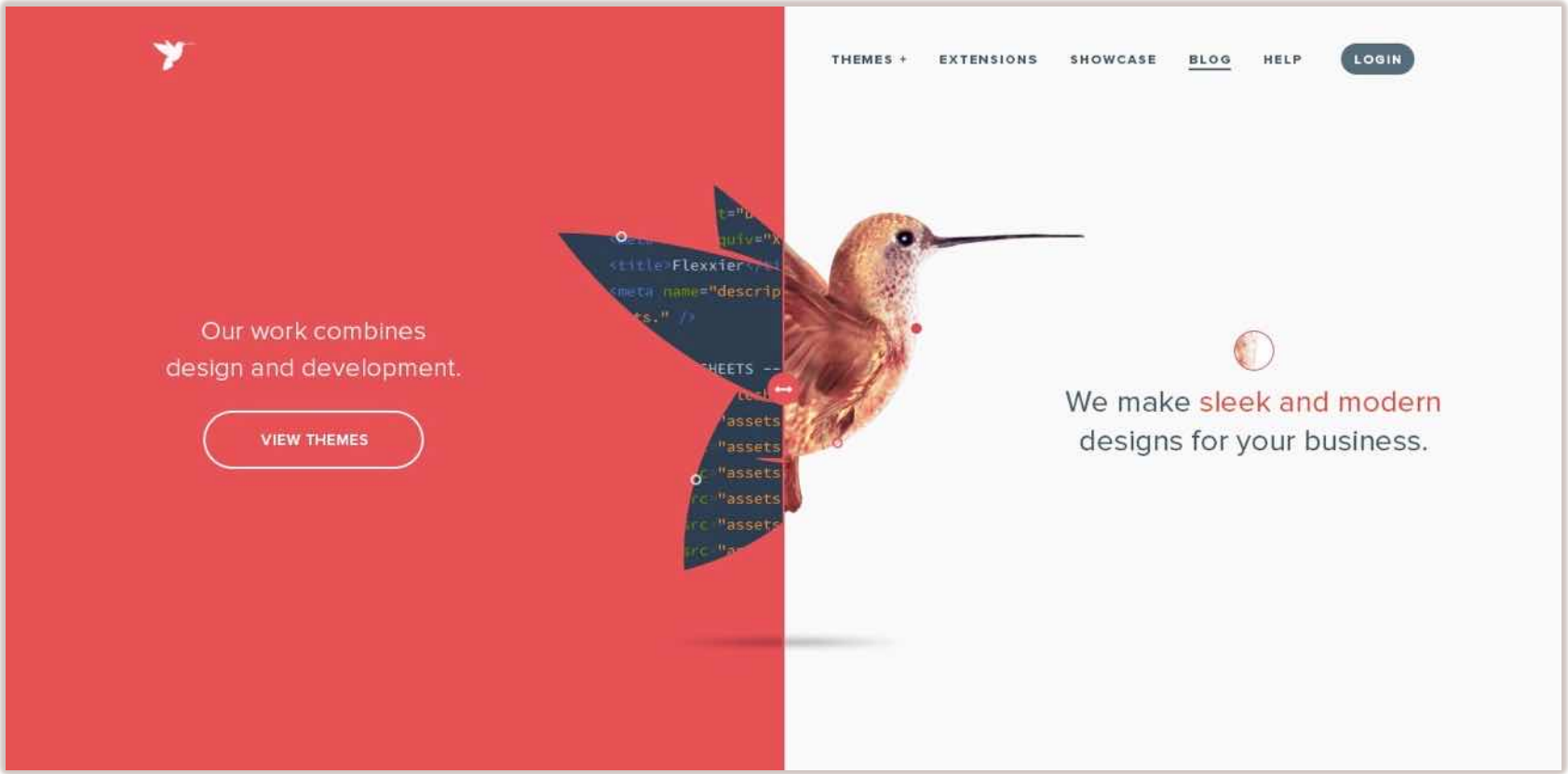
→ **Consider tuning down aesthetic values if focus is on usability**

Priming

Exposure to a stimulus influences behavior in subsequent, possibly unrelated tasks.

Colors can prime emotions

Metaphors in visual imagery



Typefaces can convey character

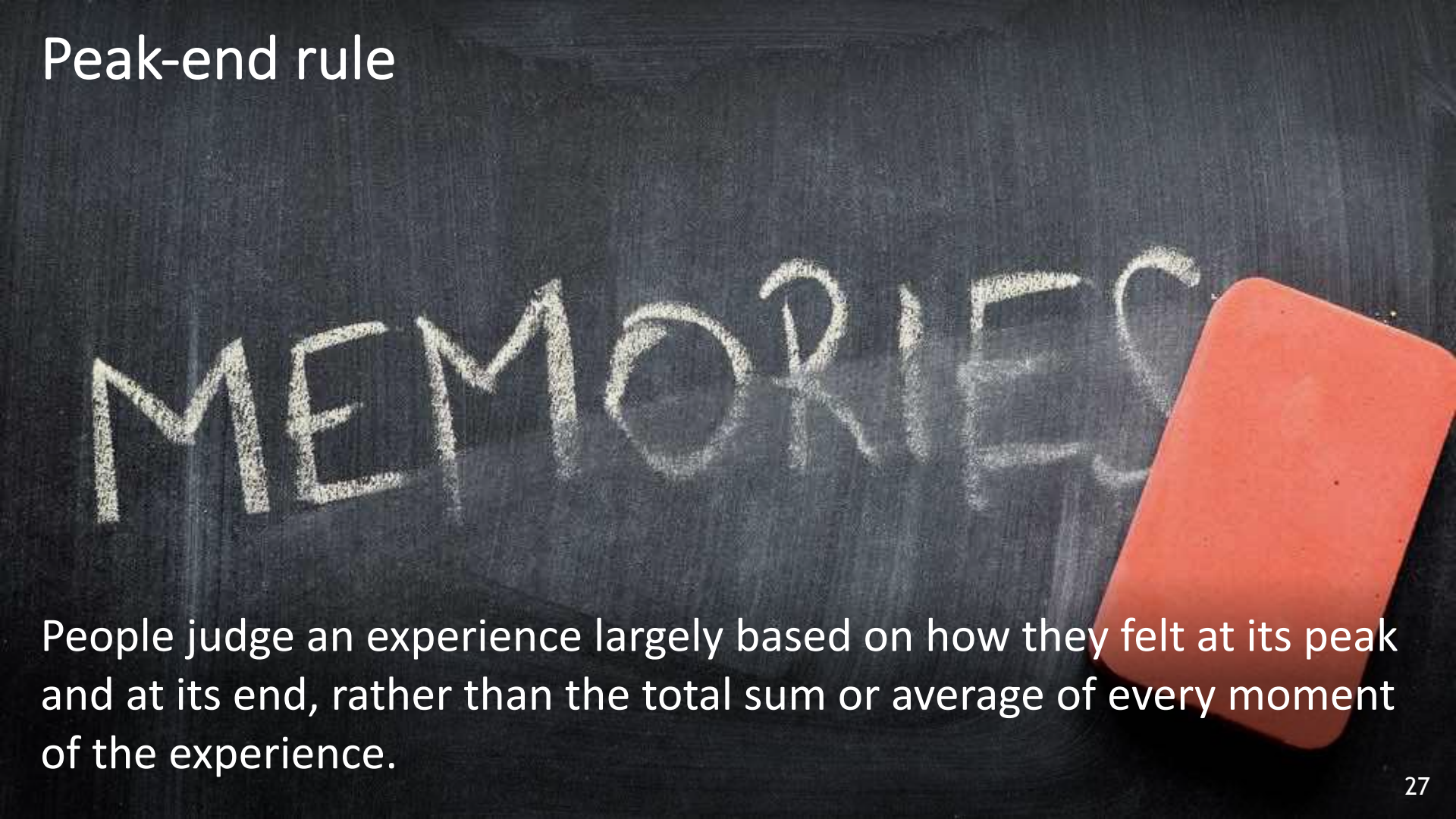
- Fonts can elicit different emotions and associations
- Important in logo design

Source: Crazy Egg

Avoid Dissonant and Accidental Priming

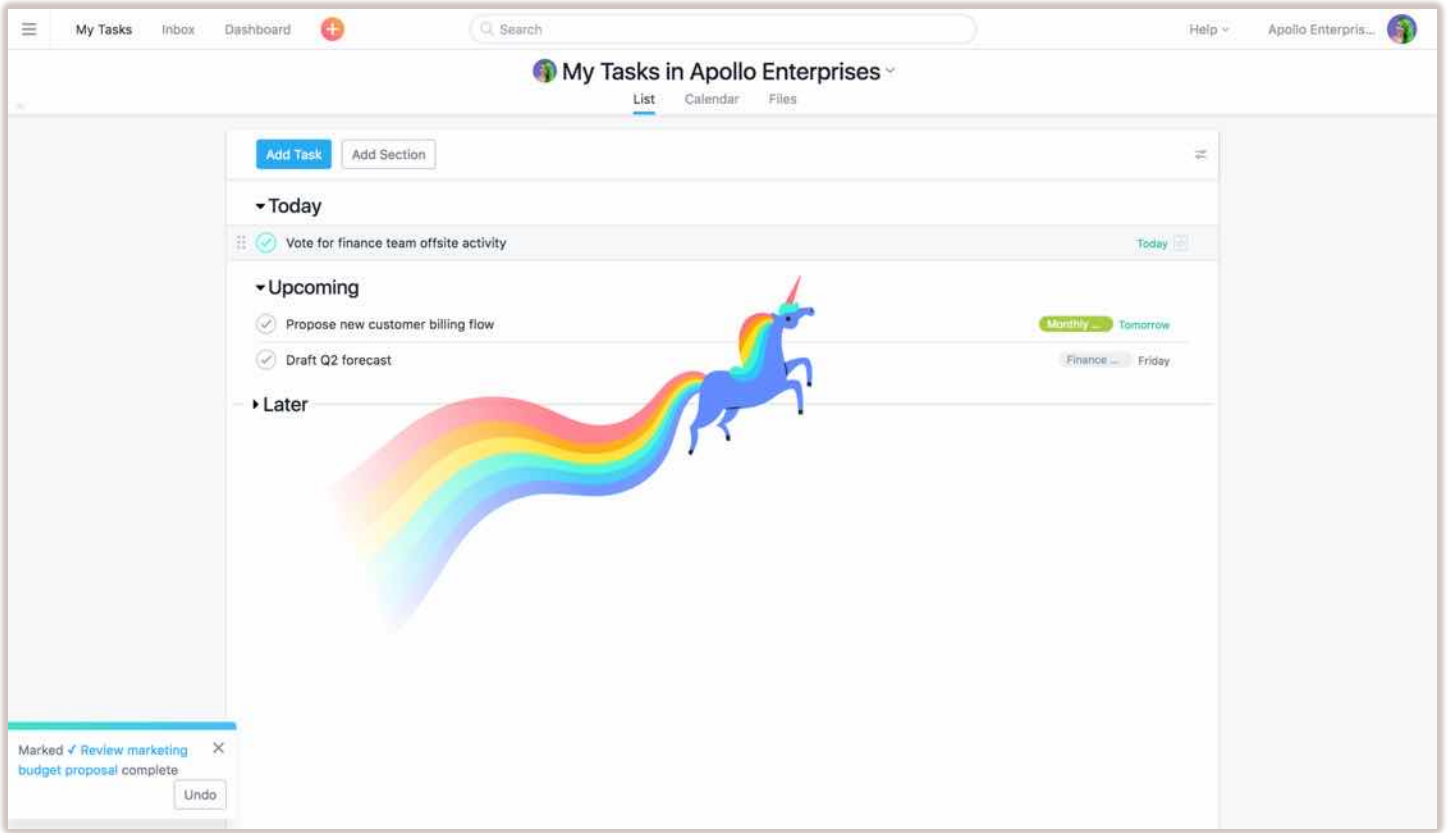
- Study market trends to identify user expectations (prototypicality and beauty-in-averageness effect)
- Avoid ‘trigger words’ that cause a visceral reaction.

Peak-end rule

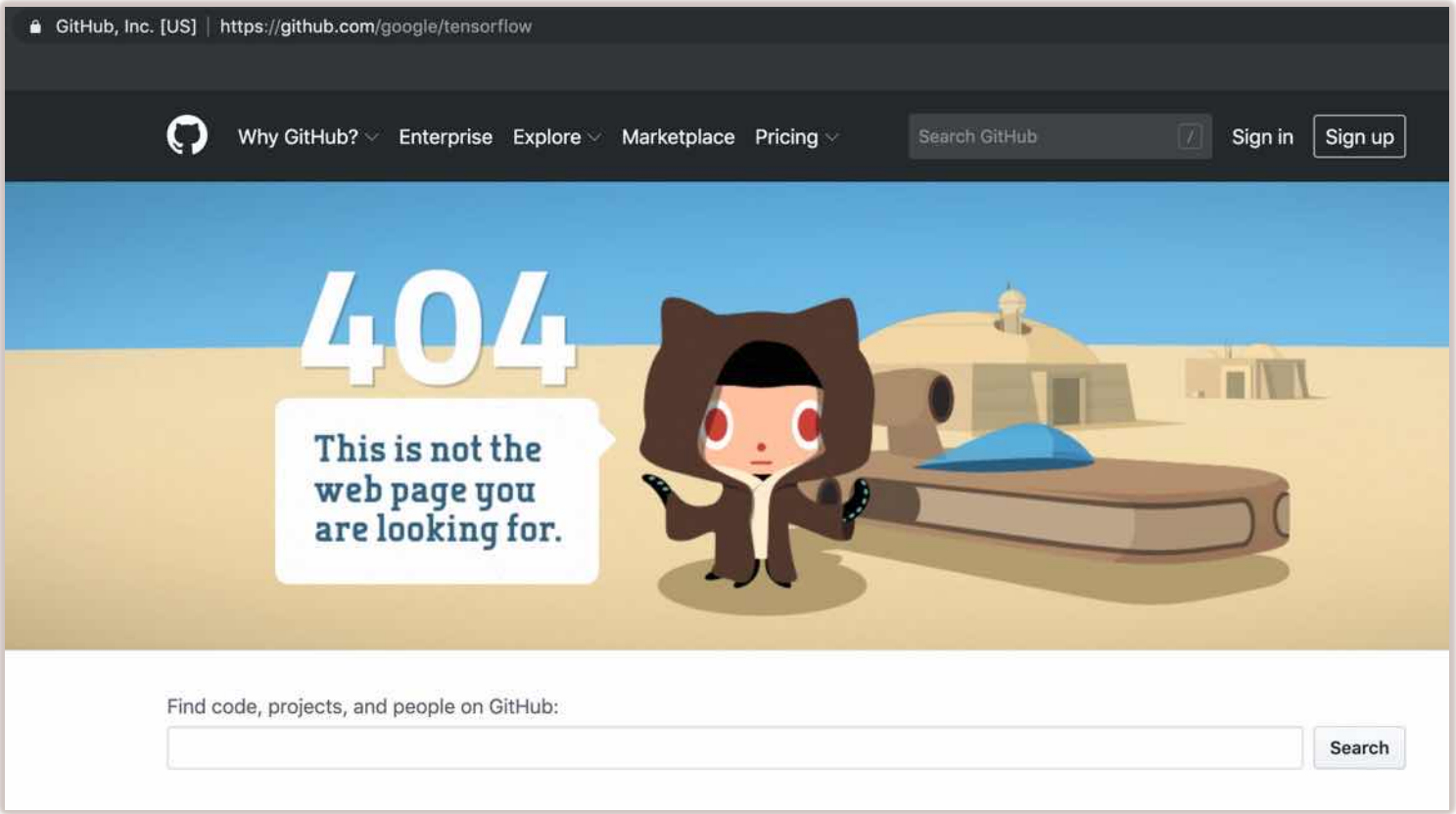


People judge an experience largely based on how they felt at its peak and at its end, rather than the total sum or average of every moment of the experience.

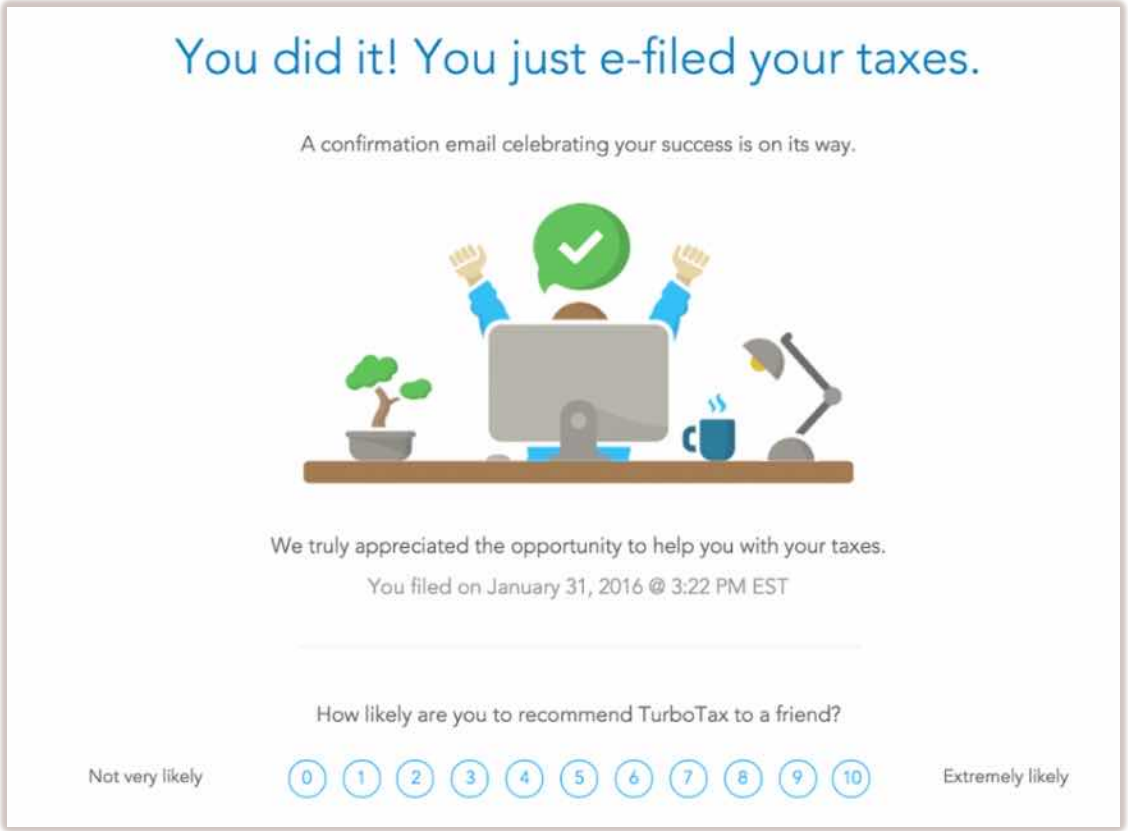
Creating positive peaks



Reduce the impact of negative peaks



Leave a memorable last impression

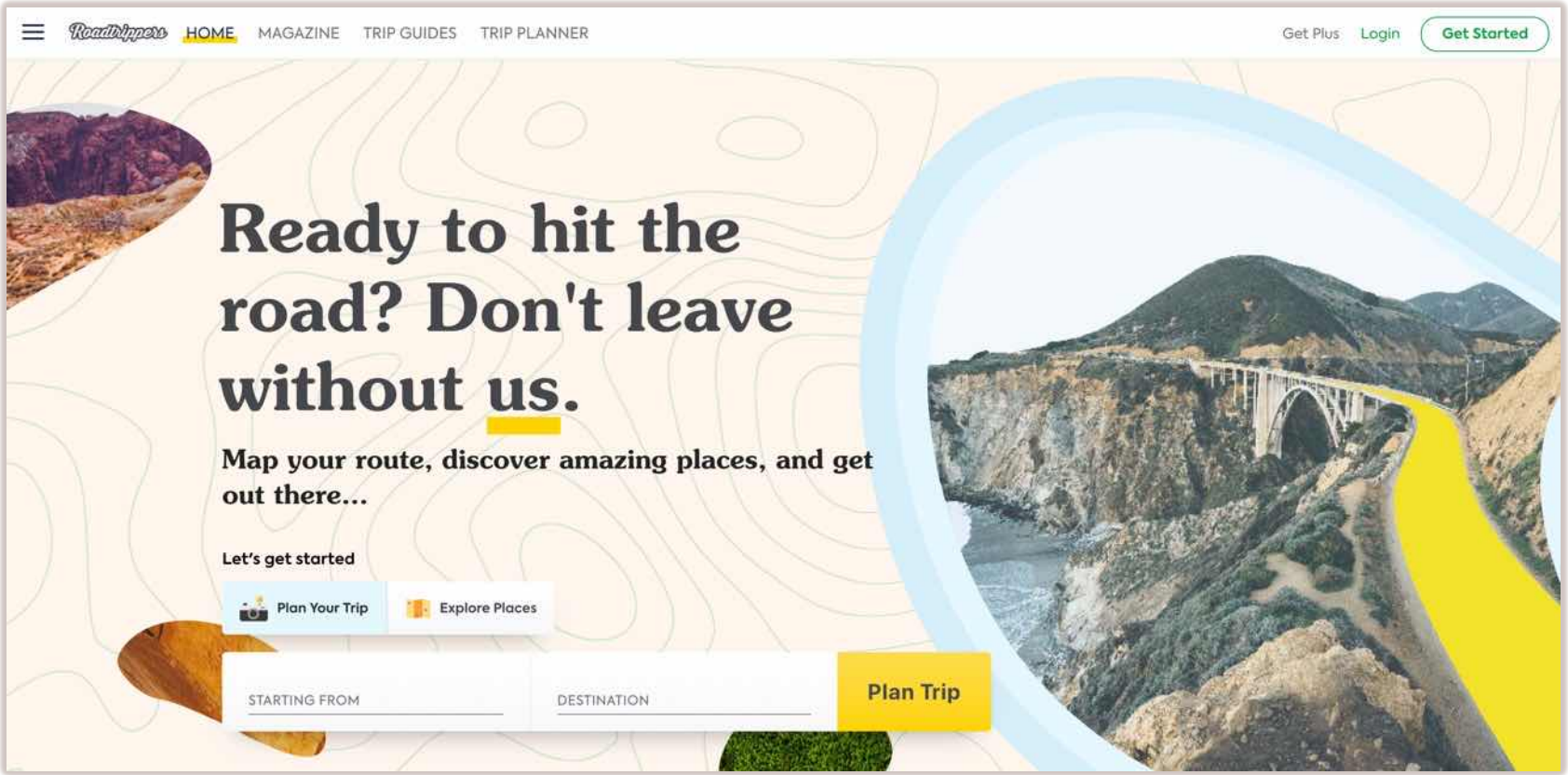


Loss aversion

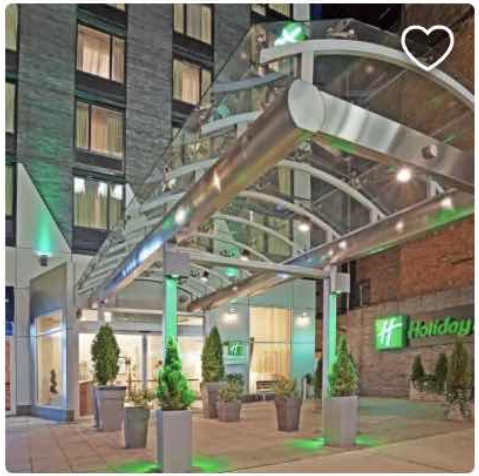
People will go to great lengths to avoid losing.
In fact, the psychological pain of losing is twice as powerful as the pleasure of winning.

Create an emotional bond with free trial

Create an emotional bond with free trial



Create FOMO with scarcity



Holiday Inn Manhattan 6th Ave - Chelsea

★★★★

Good 7.5
1,596 reviews

Chelsea, New York – Show on map (1.7 miles from center) – Subway Access

Booked 2 times for your dates in the last 24 hours on our site

King Room with City View –

Only 6 rooms left on our site!

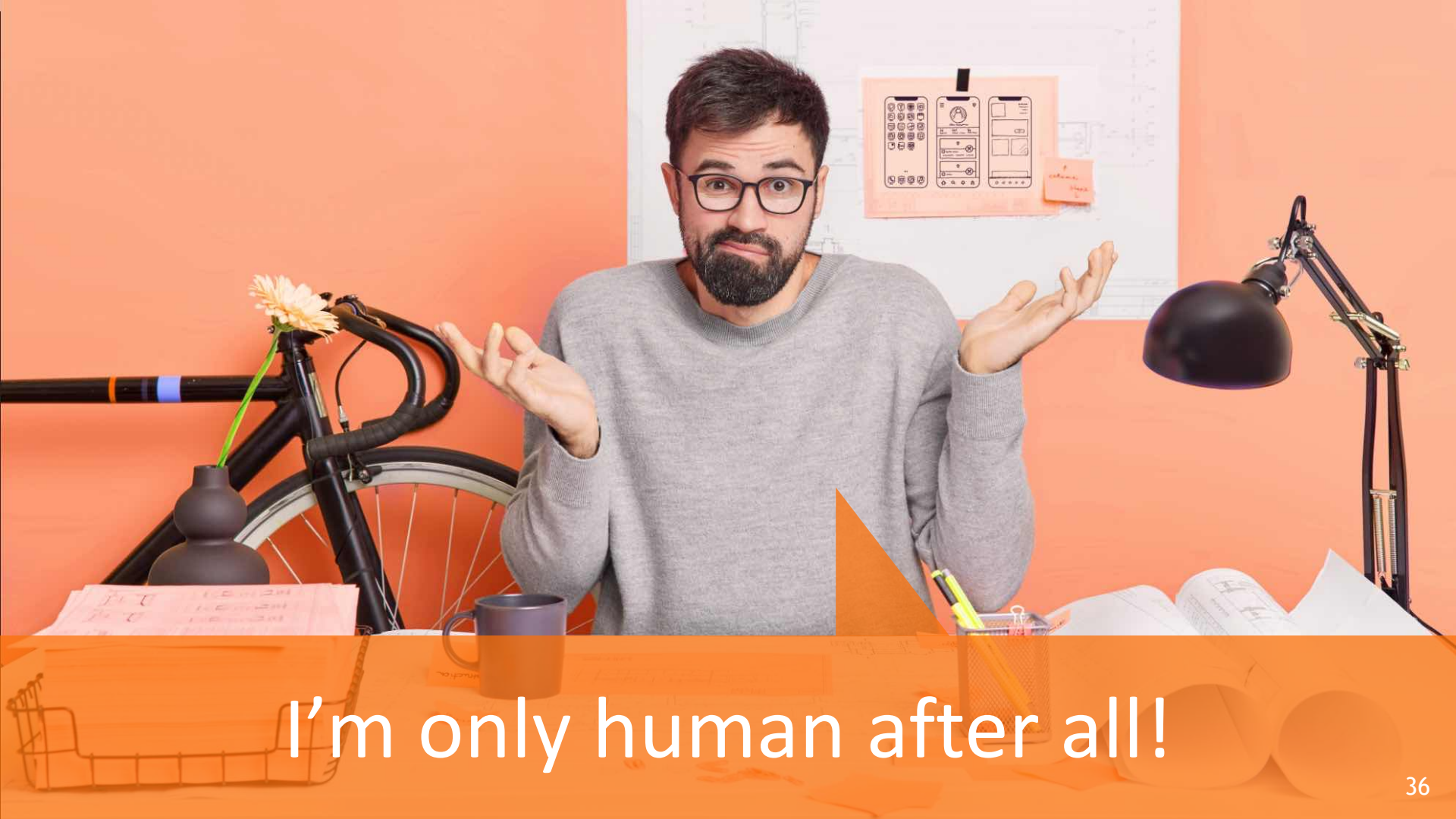
5 nights, 2 adults

US$871

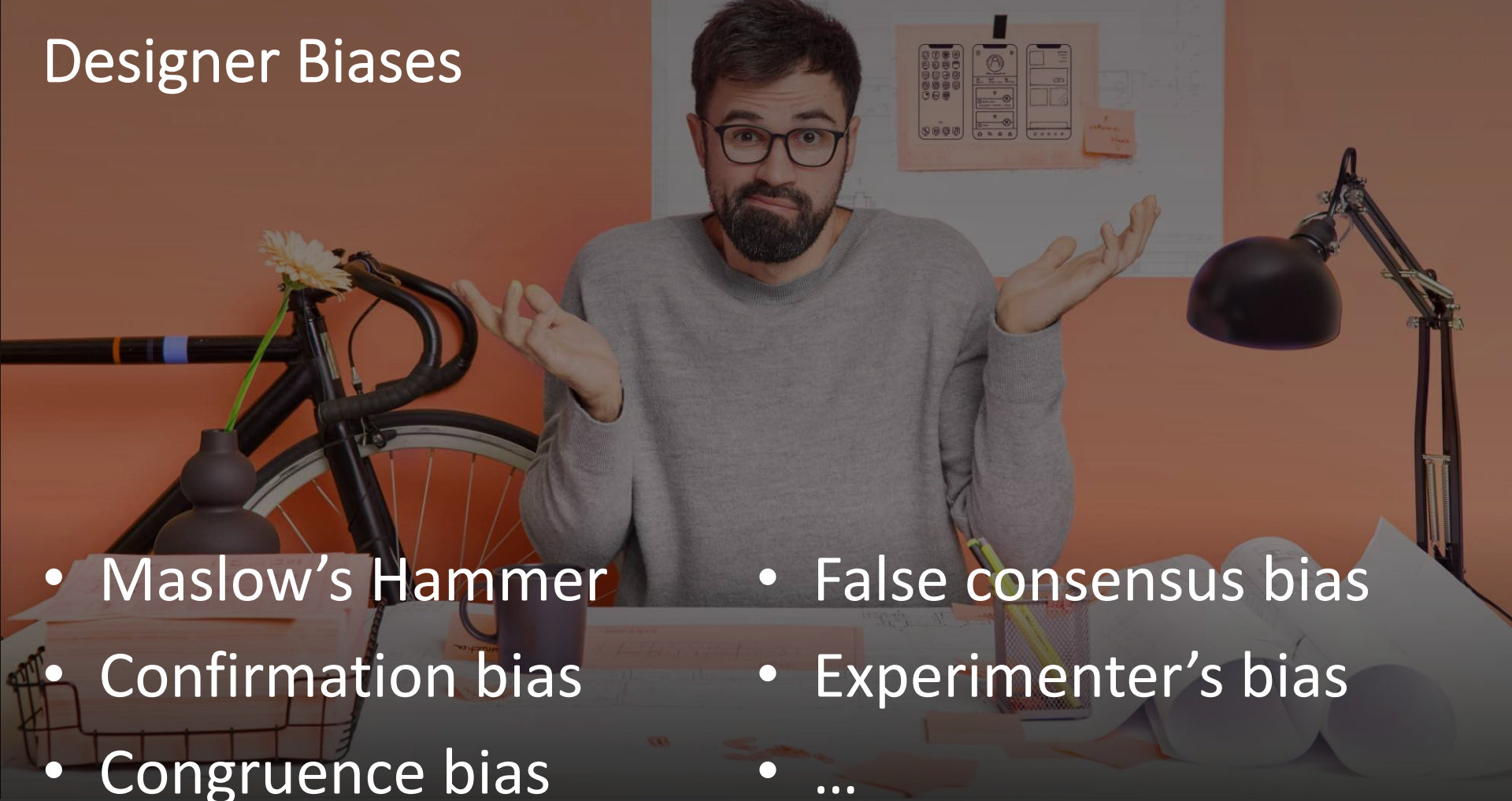
includes taxes and charges

See our last available rooms ›

Create FOMO with a countdown clock


I’m only human after all!

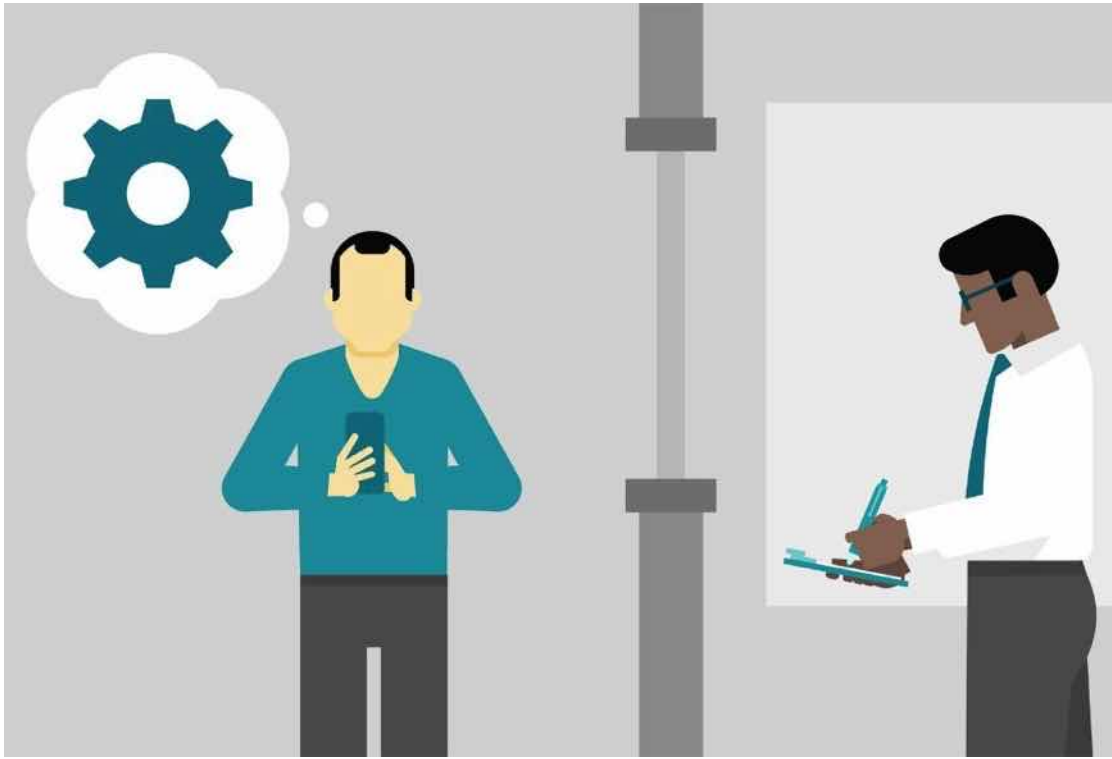
Designer Biases



- Maslow’s Hammer
- Confirmation bias
- Congruence bias
- False consensus bias
- Experimenter’s bias
- …

Acknowledge your biases and counteract!

- Cultivate curiosity
- Don’t make assumptions
- Do research with real users
- Test alternative solutions



Source: Crazy Egg

Embrace UX Research

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