

Web Design Theory

User Interface (UI) Design Principles

UI Design Principles

As a rule of thumb, "Consistency and Standards" summarises well the various types of UI Design Principles that have been proposed. This basically means making intuitive UI that are easy to use, without forcing users to learn new representations or toolsets for each task. A good UI reduces the length of the thinking process by eliminating confusion and unnecessary barriers and steps between users and their goals. It helps users feel less disoriented when they browse a new and unfamiliar website.

What is your favorite color?

- ☒ Red
- ☐ Green
- ☐ Blue
- ☐ Other

What is your favorite pet?

- ☒ Cats
- ☒ Dogs
- ☐ Birds

Example of a consistent use of HTML elements: radio buttons are meant to be used when there is only one option allowed. OTOH, checkboxes should be used when the user can select more than one option.

UI Design Principles

Interface Design is concerned on how the user interacts with a website interface. An Interface is a communication or connection point that enables users to interact with a software application. This interaction process includes one or more steps or tasks that the user will complete to accomplish their goal (the website's purpose). In this sense, an Interface has a beginning and end. The Interface's interest is that completing those steps be a rich UX for the user.



Example: What could be the purpose of the Instagram interface?

Answer: Sharing user's photos and videos

Then, the Instagram interface has

a Beginning: enable user to get/take/produce/obtain the video or photo

a Main task: enable user to upload the video/photo and add a message, and

an End: enable user to post and display the photo/image.

UI Design Principles

Structure

Simplicity

Tolerance

Reuse

Visibility

Feedback

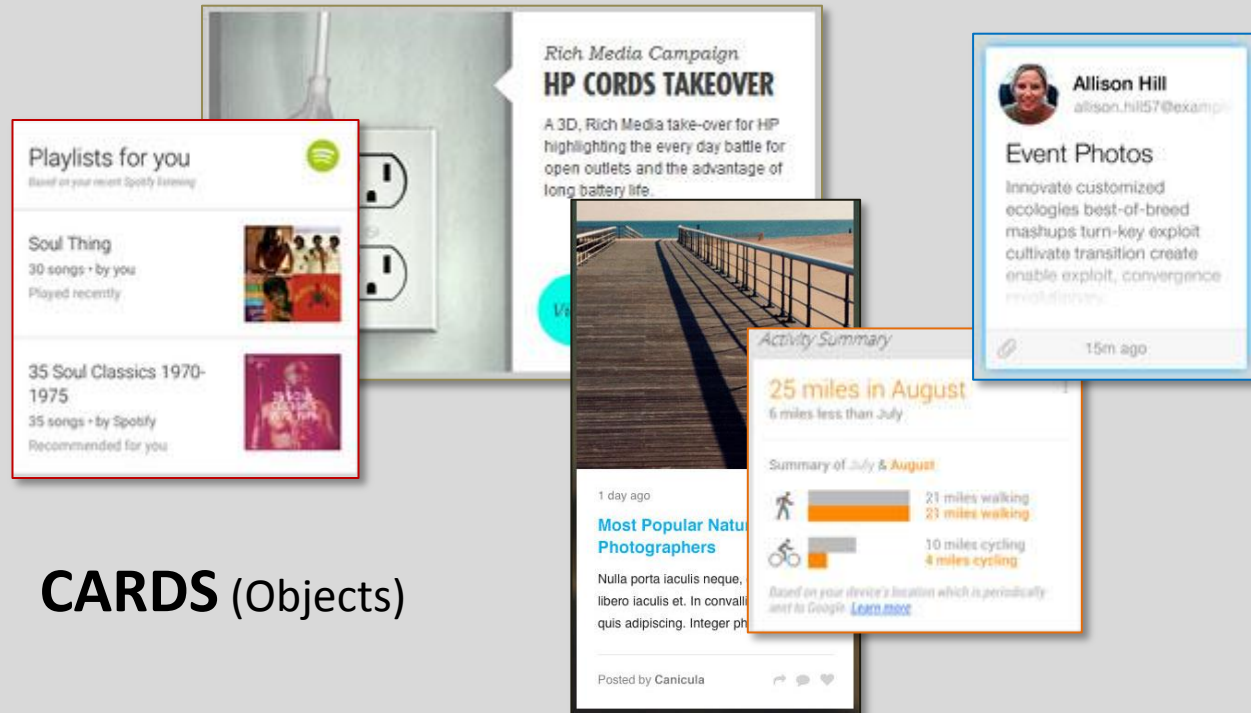
UI

User Interface (UI) design principles

- The structure principle

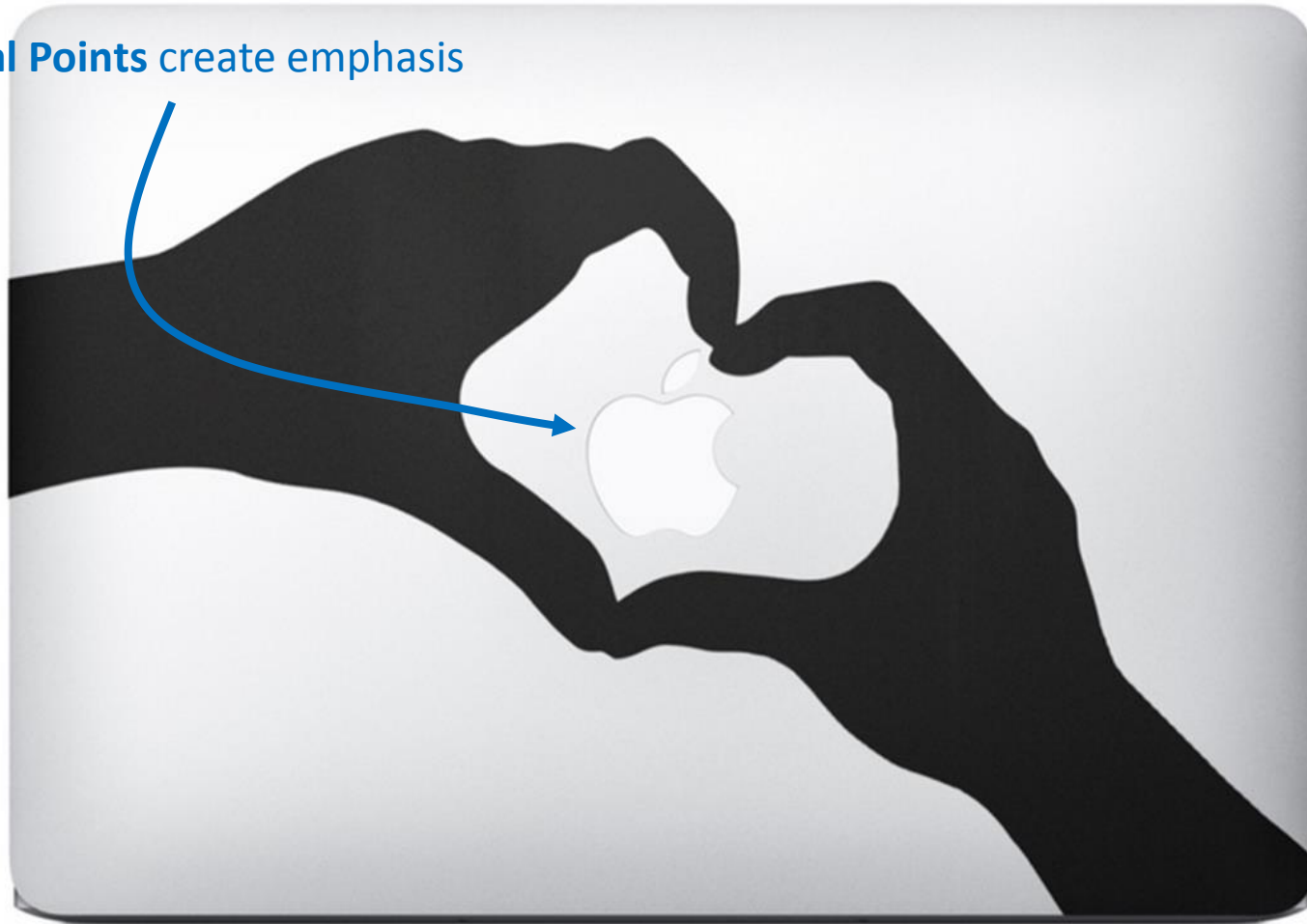
User Interface (UI) design principles

- The structure principle

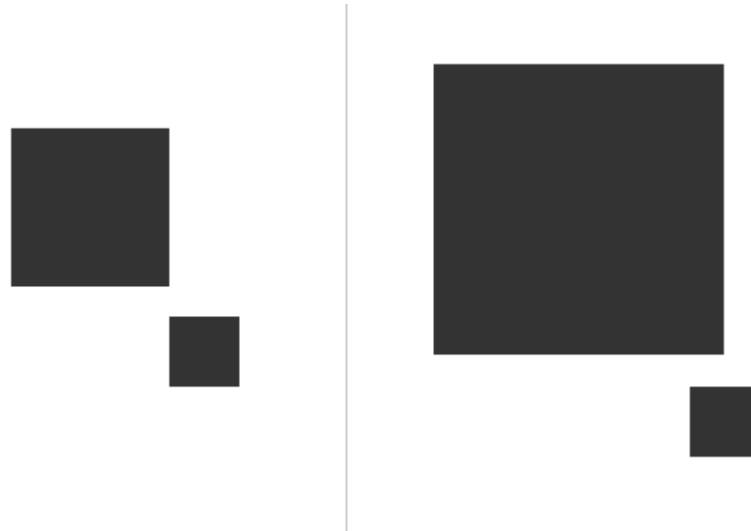


The notebook people love.

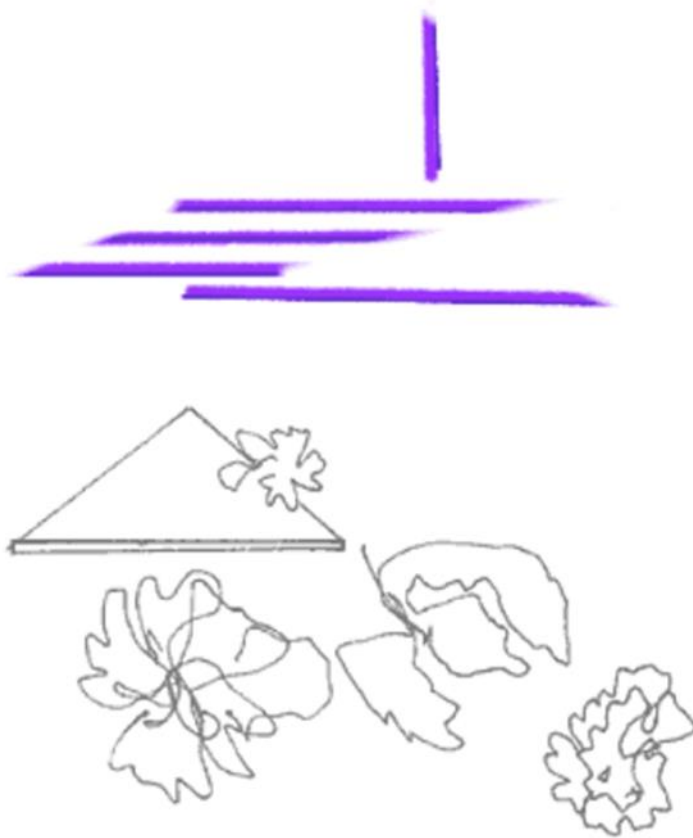
Focal Points create emphasis

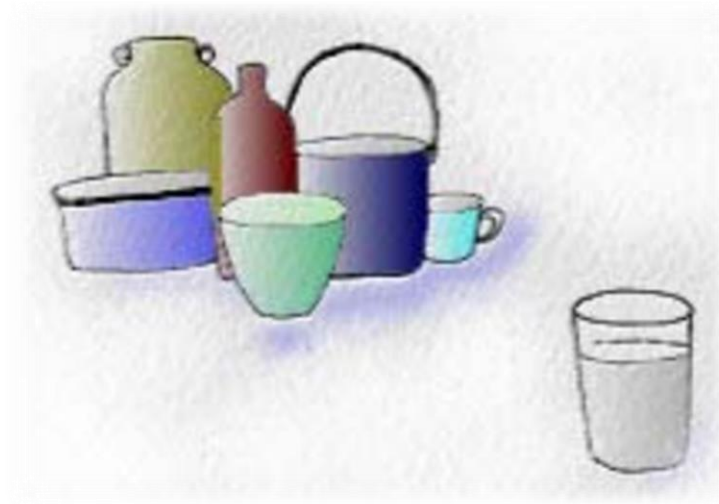


Use **Focal Points** to create an entry point on the page and a perception of ***Dominance*** and ***Hierarchy***



Use **Focal Points** to create an entry point on the page and a perception of ***Dominance*** and ***Hierarchy***





<http://www.orphansinneed.org.uk/>

<http://webdesigner.ro/>

User Interface (UI) design principles

- ✓ The structure principle
- The simplicity principle



https://www.google.co.uk/



[Gmail](#)

[Images](#)



Google Search

I'm Feeling Lucky

User Interface (UI) design principles

- ✓ The structure principle
- ✓ The simplicity principle
- The visibility principle

A website should be self-explanatory, self-evident

<http://myfridgefood.com>

<https://www.duolingo.com>

<https://www.codecademy.com>

<http://downforeveryoneorjustme.com>

Design is an act of communication

Hence, you need to understand the user who would be communicating with the system through your UI.

Good design is unnoticeable because it fits our needs so well that it becomes invisible.

Good design is obvious. Great design is transparent. - Joe Sparano



The real problem with the User Interface (UI) is that it is an interface.

Don Norman

Anticipatory Design

Design UX by using available data to anticipate what users want to do next.

Aaron Shapiro



- ✓ Data Mining
- ✓ Machine Learning
- ✓ Deep Learning
- ✓ Artificial Intelligence



00:09.60_s



My Domino's Favorite



Delivery to: 2011 S. WOODLAWN ST...



\$34.78 (4 items)



My Domino's Favorite



Delivery to: 2011 S. WOODLAWN ST...

\$34.78 (4 items)



Zero Click App

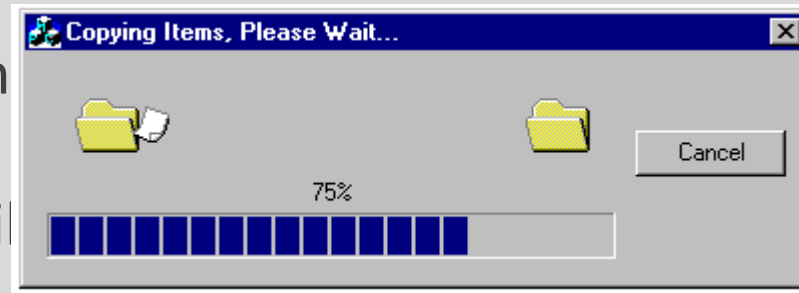
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User Interface (UI) design principles

✓ The structure principle

✓ The simplicity principle

✓ The visibility principle



■ The feedback principle

User Interface (UI) design principles

- ✓ The structure principle
- ✓ The simplicity principle
- ✓ The visibility principle
- ✓ The feedback principle
- The tolerance principle

User Interface (UI) design principles

- **The tolerance principle**

Error tolerance is the design of things to be resilient to human error. The Tolerance Principle makes interfaces difficult to get wrong. When a human error does occur, error-tolerant designs gracefully detect and handle it.



DuckDuckGo

User Interface (UI) design principles

■ The tolerance principle

You implement Tolerance by

- ✓ Validating input to prevent mistakes
- ✓ Automatically suggesting a correction to input
- ✓ Allowing a wide range of input variations
- ✓ Using constraints to prevent mistakes
- ✓ Providing the ability to undo actions or series of actions
- ✓ Telling the end user clearly and exactly what's wrong
- ✓ Providing clear and direct warnings
- ✓ Checking unconscious actions in tasks that require vigilance

Tolerance Principle

Create accessible websites

- ✓ In small smart devices, big is beautiful, most of the time



- ✓ Remember to acknowledge ownership: Copyright

User Interface (UI) design principles

- ✓ The structure principle
- ✓ The simplicity principle
- ✓ The visibility principle
- ✓ The feedback principle
- ✓ The tolerance principle
- The reuse principle

- The reuse principle



■ The reuse principle

Reusing means:

- ✓ Not forcing your users to learn new representations or toolsets for each task.
- ✓ Not deviating from design standards and conventions. Confusion occurs when people are unable to 'piece together' information, obstructing them from achieving something. Confusion causes frustration, and frustration leads to poor UX.
- ✓ Using "standard", popular and commonly accepted icons, elements and ways to represent things that mean the same or perform the same operation.
- ✓ Leveraging that fact that humans have a strong memory for where things are visually located on the screen by reserving commonly used locations for elements such as having the logo on the top left, search field on the top right, exit icon on the top right, etc.
- ✓ Making sure you have the features and functionalities users would expect to see on your site. For example, an airline site should have a ticket-booking system, while a music-sharing site should have a media player
- ✓ Making sure visual elements are consistent throughout your site. They should always be in harmony and feel consistent at every touch point.
- ✓ Sticking to technical conventions that exist in the form of always using the appropriate HTML5 and CSS3 elements.

Take advantage of conventions



Home



Home



Home



Home



Home



Home



Home???

- ✓ Always use things users are familiar with or are commonly used in web design.
- ✓ They would help you to make obvious what's clickable
- ✓ Make your choices clear
 - But users don't mind a few clicks as long as they have confidence of being on the right track
- ✓ Use Breadcrumbs `Home > Languages > Java > Objects`
- ✓ Always show your global navigation
- ✓ Provide a Search box, unless your site is small
- ✓ Get the most out of Tabs

User Interface Design Principles (UI-DP)

- ✓ The structure principle
- ✓ The simplicity principle
- ✓ The visibility principle
- ✓ The feedback principle
- ✓ The tolerance principle
- ✓ The reuse principle

To provide a rich UX you need to use the UI Design Principles. For example, Tolerance and Feedback enables Accessibility, honouring human diversity. They address the right for everyone to use all services and information, in an independent, inclusive and equal way.

The **UI-DP** aim to replicate Human-to-Human interaction

Good Human Communication includes:

Fluidity

Simplicity

Obviousness

Clarity

Consistency

Satisfaction



Fluidity

UI itself is closely matched with the goal of the user

- * Amount of time needed by user to learn to use the UI = Nada **0**
- * Times user got stuck when using the UI = Nada **0**

Simplicity

Freedom from complexity, stages and steps

- * Number of steps to successfully complete tasks = Nada **0**
- Simplicity is prerequisite for reliability (E.W. Dijkstra)*

Obviousness

The purpose of the UI is immediate and evident

- * Amount of explanation of how to complete a task = Nada **0**

Clarity

Minimum help required and feedback is provided opportunistically

* Number of "questions" user asks when using the UI = Nada **0**

* Number of "helps" user finds annoying = Nada **0**

Consistency

Different types of users use the same amount of time interacting with the UI

* Dispersion (Standard Deviation) of the amount of times needed by different types of users = Nada **0**

Satisfaction

Fulfillment of user's expectations, or needs, or the pleasure derived from this

* Times user expressed frustration = Nada **0**



Lab 1

MONDAY 14th January 2019
at 13:15h Room EM2.50

Mark: 1% out of 20% of CW1

- ✓ Tell us three (3) BIG problems you found in your "worst" website's design
- ✓ Tell us the user, information and purpose of your "worst" website.
- ✓ Show us that you can upload files to your MACS webserver folder at:

[http://www2.macs.hw.ac.uk/~\[YOUR_USERNAME\]](http://www2.macs.hw.ac.uk/~[YOUR_USERNAME])

To ask more questions and give answers on topics discussed in our course go to:

<http://www.icbl.hw.ac.uk/santiago/teaching/F27WD/QA>