

# Visual Design

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# Motivation



*“The moment the user sees your UI, it communicates where they have arrived, what they can do, and how they should do it. The user receives this message from every aspect of your design: graphical and textual, silent and audible, static and moving, intentional and accidental. Figure out what you want that message to be, then do everything you can to ensure the message your UI sends is as close as possible to the one you intended.”*

— JAN MIKSOVSKY

# Lecture Overview

## ■ Mission Statement

- This lecture teaches you **basic principles** for designing **good** and **intuitive UIs**. Those principles apply to many kinds of systems (Web-based system, mobile app, desktop app etc).

## ■ Objectives

- You know basic principles of intuitive and modern UIs
- You learn a methodology that helps you to built UIs with a good user experience
- You know the difference between user interface design and user experience design
- You learn basic principles of both areas

# User Interface versus User Experience

## ■ User Interface (UI): → [visual design]

- A user interface connects users to a product's underlying technology;
- It is what users **see** and **feel directly** when using a product or system.
- The transference of a product's development, research, content and layout into an **attractive**, **guiding** and **responsive experience** for users.

## ■ User Experience (UX): → [technical / analytical]

- User experience encompasses the **entire experience** users have with a product or software system.
- It is a conglomeration of tasks focused on **optimization** of a product for **effective** and **enjoyable use**.
- Empirically researched that the perception of instrumental and non-instrumental qualities influence **emotional reactions** and appraisal.

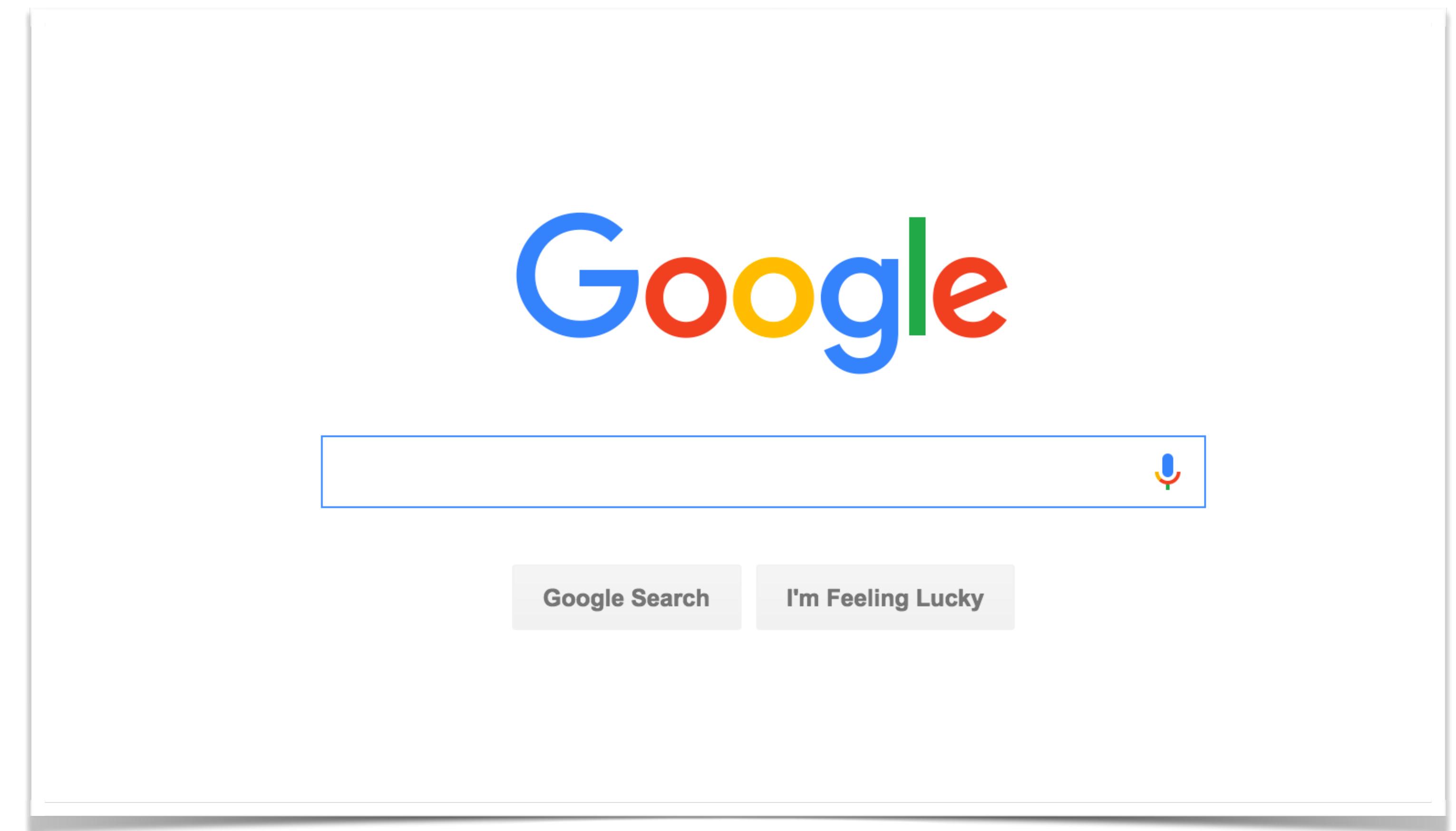
*"It's important to distinguish the total user experience from the user interface (UI), even though the UI is obviously an extremely important part of the design."*

*As an example, consider a website with movie reviews. Even if the UI for finding a film is perfect, the UX will be poor for a user who wants information about a small independent release if the underlying database only contains movies from the major studios."*

*—Don Norman and Jakob Nielson, NNG Group*

# Successful Combination of User Experience and Visual Design: The Google Search Page

- The Google search page is a good example for successful **user experience** and **visual design**—its interface is simple. There's barely anything to the UI—just a logo, a search bar, a few buttons, and a search results page.



# Successful Combination of User Experience and Visual Design: The Google Search

- By entering a search string into the search box, the search engine offers access to nearly the **entirety** of **digitized human knowledge** in less than one second.

- Imagine: Would you have the same experience, when the interfaces stays the same but the search took > 12 sec.?

inglorious bastards

All Images Videos News Shopping More Settings Tools

About 3.080.000 results (0,70 seconds)

**Inglourious Basterds - Wikipedia**  
[https://en.wikipedia.org/wiki/Inglourious\\_Basterds](https://en.wikipedia.org/wiki/Inglourious_Basterds) ▾  
 Inglourious Basterds is a 2009 war film written and directed by Quentin Tarantino and starring ..... He previously cameoed as a German in his own **Inglourious Basterds** and reprised the same role in this film, but under a different rank and SS ...  
 Produced by: Lawrence Bender Production company: A Band Apart; Studio Ba...  
 Box office: \$321.5 million Language: English; German; French  
 The Inglourious Basterds · Mélanie Laurent · Hans Landa · Til Schweiger

**Inglourious Bastards - Wikipedia**  
[https://en.wikipedia.org/wiki/Inglourious\\_Bastards](https://en.wikipedia.org/wiki/Inglourious_Bastards) ▾  
 Inglourious Bastards may refer to: The **Inglourious Basterds** (Quel maledetto treno blindato), a 1978 Italian action/war film directed by Enzo G. Castellari ...

**Inglourious Basterds – Wikipedia**  
[https://de.wikipedia.org/wiki/Inglourious\\_Basterds](https://de.wikipedia.org/wiki/Inglourious_Basterds) ▾ Translate this page  
 Inglourious Basterds (absichtliche Falschschreibung für engl. **Inglourious Basterds**, etwa: „Unrühmliche Mistkerle“) ist ein am 20. August 2009 erschienener ...  
 Deutscher Titel: Inglourious Basterds Originalsprache: Englisch, Deutsch, Französis...  
 Länge: 154 Minuten Drehbuch: Quentin Tarantino  
 Handlung · Kapitel 2: Inglourious ... · Produktion · Hintergrund und Geschichte

**Inglourious Basterds (2009) - IMDb**  
<https://www.imdb.com/title/tt0361748/> ▾  
 ★★★★☆ Rating: 8,3/10 - 1,061,920 votes  
 Inglourious Basterds Poster ... Brad Pitt and Eli Roth in Inglourious Basterds (2009) Mike Myers and Michael Fassbender in ..... **Inglourious Basterds** See more » ...

**Videos**

CLASSIC TRAILER

1:46

Inglourious Basterds Official Trailer #1 - Brad Pitt Movie (2009) HD

Movieclips Classic Trailers YouTube - Dec 13, 2011

2:02

Inglourious Basterds 2009 Trailer

PasseXxPunk YouTube - Aug 3, 2009

2:26

Brad Pitt in Inglourious Basterds Official Trailer

zaifmand YouTube - Sep 8, 2009



## Inglourious Basterds

2009 · Drama/Action · 2h 33m

[Play trailer on YouTube](#)

8,3/10  
IMDb

69 %  
Metacritic

88 %  
Rotten Tomatoes

93% liked this film  
Google users



It is the first year of Germany's occupation of France. Allied officer Lt. Aldo Raine (Brad Pitt) assembles a team of Jewish soldiers to commit violent acts of retribution against the Nazis, including the taking of their scalps. He and his men join forces with Bridget von Hammersmark, a German actress... [MORE](#)

**Release date:** July 28, 2009 (Germany)

**Directors:** Quentin Tarantino, Eli Roth

**Featured song:** Cat People (Putting Out Fire)

**Narrator:** Samuel L. Jackson

**Awards:** Academy Award for Best Actor in a Supporting Role, MORE

## Critic reviews

Bizarre, bold, and bloody, there's no denying that "Inglourious Basterds" has all the vim, vigor, and excitement of Quentin Tarantino's other films.  
[Full review](#)

James Rocchi  
Common Sense Media

'This might just be my masterpiece', runs the last line of *Inglourious Basterds*. While that may not be true, it's an often dazzling movie that sees QT back on exhilarating form. [Full review](#)

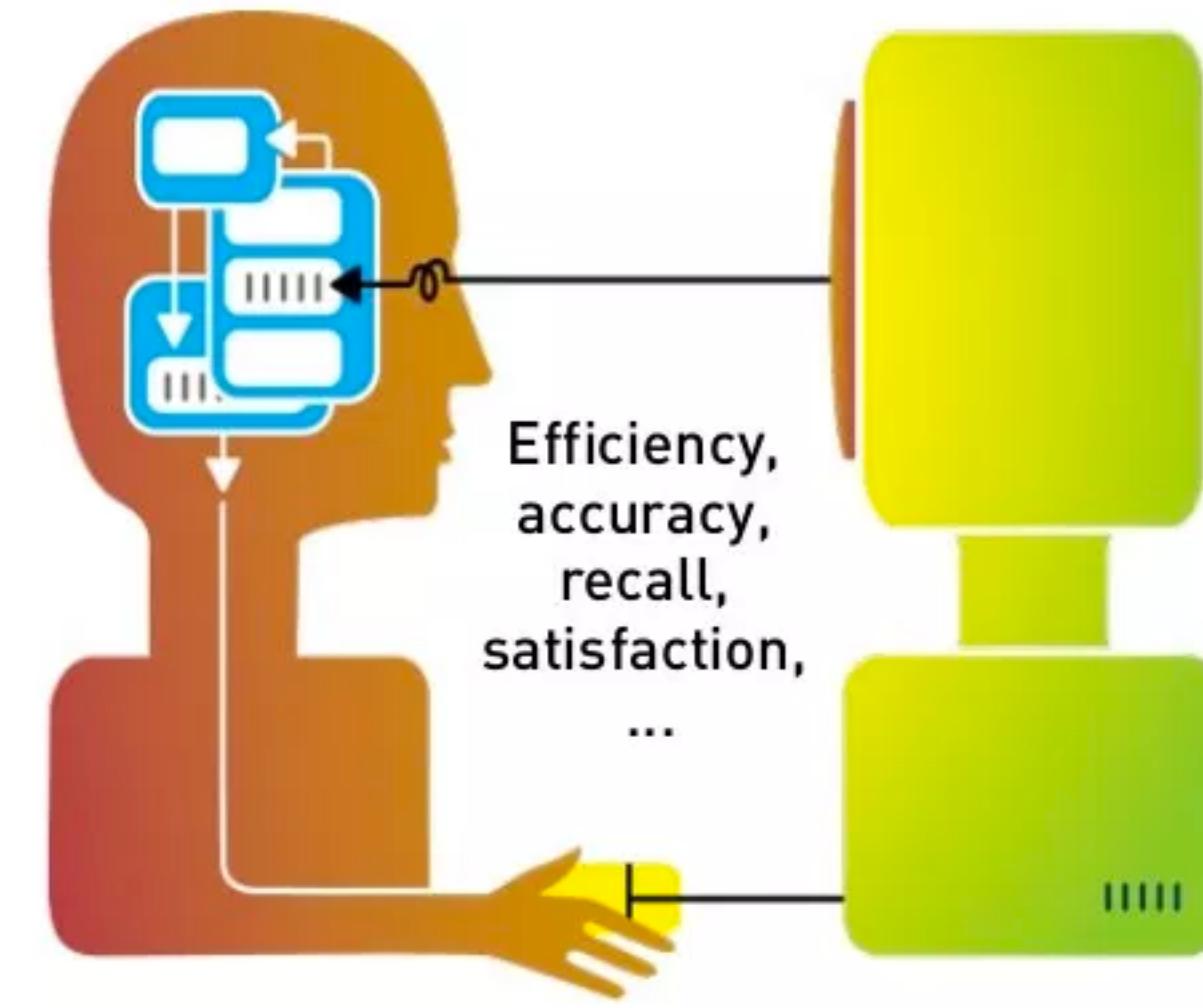
Chris Hewitt  
Empire

# **How to design intuitive User Interfaces?**

Part II

# A User Interface represents a Form of Communication

- A user interface is essentially a **conversation** between the user and a software system to perform tasks to **achieve users' goals**.
- A UI differs from conversation primarily in that it uses the **language of UI elements** instead of natural language.
- A well designed UI communicates with its users in a way that is
  - natural
  - professional
  - friendly
  - easy to understand
  - efficient.



<http://www.smartgit.org/brain-food/career-hubs/human-computer-interaction.png>

Poorly designed UIs are **unnatural, technological** and **mechanical**, and require users to apply thought, experimentation, memorization, and training to translate it into something meaningful.

# User Interface Design is a principled objective Communication Skill to explain Tasks to Users

- User Interface Design is not a subjective visual Art about Pixels and Aesthetics
- Style, color schemes, fashion are largely subjective, but aspects that constitute a **comprehensible** and **intuitive task explanation** to the target users are not.
- Every user interface element can be **evaluated** by how **effectively it communicates** its role and contribution towards the fulfillment of users' tasks.
  - If a UI contains elements, that communicate nothing, they should be removed.
- Example:

*“Should I use radio buttons or check boxes?”*

can be answered by

*“What are you trying to communicate?”*

Options turned on/off → **Checkboxes**

> 2 independent states → **Radiobuttons**
- By focusing on communication, **design decisions** that appear subjective (such as control selection, icon design, layout, color scheme etc.) become much **more objective**.

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Allow the user to turn one or more options on/off

—> **Checkboxes**

Choose one option among many independent alternatives or states

—> **Radiobuttons**

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# Radiobuttons or Checkboxes – An Example

<b>2</b>	Zahlungsart
<input type="radio"/> Vorkasse	
<input checked="" type="radio"/> Kreditkartenzahlung  	
<input type="radio"/> SOFORT Überweisung 	Bitte halten Sie PIN und TAN bereit 
<input type="radio"/> PayPal 	
<input type="radio"/> MasterPass 	
<input type="radio"/> Nachnahme	
<input type="radio"/> Bar/EC bei Selbstabholung in Hannover/Laatzen, München, Düsseldorf oder Hamburg	
<input type="radio"/> Finanzierung ab 0%	
<b>3</b>	Versandart
<input checked="" type="radio"/> Hermes Standard Lieferung zwischen dem 29.03. und 31.03.	0,00 Euro
<input type="radio"/> Hermes WunschZustellung Lieferung zu Ihrem Wunschtermin	3,00 Euro
<input type="radio"/> UPS Express nächster Tag Lieferung am 29.03.	5,00 Euro
<input type="radio"/> DHL Standard Lieferung zwischen dem 29.03. und 31.03.	3,00 Euro

- Radio buttons are a good choice when **one** out of **several independent options** needs to be selected

# Intuitive UIs Incorporate 8 Essential Characteristics

## ■ Discoverability

Users can easily find the **starting point** within a specific context together with the command to initiate an action.

## ■ Understandability

Users are able to make an **informed decision** instantly and confidently and not be compelled to experiment around or require assistance.

## ■ Affordance

UI elements must incorporate **visual properties** that indicate how to perform a specific action or interaction.

## ■ Predictability

A UI delivers the **expected results** (in terms of functionality) with no surprises or confusion. See —> **natural mapping**.

Not every attribute listed here is required for every interaction, so the key challenge is to determine the **appropriate combination** of manifestations.  
→ *Think: How can this be achieved?*

## ■ Efficiency

An UI should enable users to perform desired actions with a **minimum** amount of **effort** or tweaks.

## ■ Responsive Feedback

An UI should give immediate and clear **feedback** as a response to the initiation of an action. Upon completion, the UI makes it clear whether the action was successful or not.

## ■ Forgiveness

If users make mistakes, either the right things happen anyway or users can **fix** or **undo** their actions with ease.

## ■ Explorability

Users should be able to **explore** a UI **without fear** of doing something wrong or getting lost.

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# Remember

- Discoverability, affordance, and predictability are strongly influenced by users' previous or prior experiences. → What does that imply for intuitive UIs?
- Users usually spend more time on other pages or with other software than with yours.
- Hence, their prior experiences are built from experiences they learned from using other software.
- If your product or software system is unexpectedly inconsistent with those experiences, it is YOUR product that is unintuitive.

# Basic Principles about intuitive Interactive Design

## ■ Principle 1: UI is essentially Human-like Communication

- The most important concept is to understand that UI is not a completely different **form of communication**.
- A good and intuitive UI is designed to **communicate to people**, not robots, so it employs many concepts of human communication.

## ■ Principle 2: Friendliness

- If a UI communicates in a way that would be **inappropriate** or **rude in person**, it is equally inappropriate or rude in a system.
- It is **not the users' fault** if they can't figure out how to use a product properly!

*(...probably because its user interface and interactions are overly complex, unintuitive, unnatural, not error-prone or require too much effort.)*

## ■ Principle 3: Intuitivity

- A UI is intuitive, when it exhibits the **appropriate combination** of discoverability, understandability, affordance, predictability, efficiency, responsiveness, forgiveness, and explorability.

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