

## **WHAT IS INTERACTIVE DESIGN**

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**design that is centered around human activity with events, situations, and services**

software interface

web interface

product interface

environmental interface (architecture)

service interface (ATMs, kiosks)

### **interactive design values**

do no harm; improve human situations

assist users in achieving goals

accommodate user skills and situations

help client achieve goals

work effectively with business and technology

simple, elegant visual/design solution

“possess internal coherence”

“accommodate and stimulate cognition and emotion”

## **ETHICAL INTERACTIVE DESIGN**

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**avoid interpersonal harm (embarrassment, insult)**

**avoid psychological harm (confusion, frustration)**

**avoid physical pain (compromised safety, injury, death)**

**avoid environmental harm (pollution, negative effects on biodiversity)**

## **GOOD DESIGN**

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**economy of form = less is more; simple tools for human interface**

**unified | gestalt**

## **WHAT PURPOSE(S) DOES A WEB SITE SERVE**

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**personal sharing**

**company and/or product information**

**research**

**inventory of services | provide service**

## **THE IMPORTANCE OF OPTIMAL SITE DESIGN**

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**0.1 seconds = instantaneous**

**1.0 seconds = responsive**

**2-10 seconds = slow (provide progress bar | preloader)**

**10+ seconds = user clicks away (provide time to load indicator)**

### **AVOID "EXCISE"**

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**things that must be done to get to a user's goal, but are not perceived as directly related to the goal**

filling in forms/information more than once  
having to select a state name from a long popup menu  
enter credit card information more than once  
having to click more than 3 times to get where they want to go  
not knowing where to look first  
too much "eye candy"  
unnecessary error messages  
forced resizing/moving of windows (viewports)

### **NAVIGATION "EXCISE"**

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**multiple open windows/tabs**

**excessive scrolling**

**lack of page titles**

**loosing focus due to content switching | inability to see "both"**

### **IMPROVING NAVIGATION**

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**synthesize = fewer pages**

no more than 2 menus, one content area per page  
streamline controls/options to match user needs  
keep scrolling to a minimum (esp. left|right)

**add points of reference (signposts)**

keep repeating elements consistent = size, shape, position, etc. which includes navigation, search fields, banners and content areas

banner/header and menu consistency is a must

**provide overviews**

breadcrumbs | page content highlight in menu

**appropriate visual clues between icons and their purpose**

clear visual correlation between object (button) and results (target)

**"inflect interface to match user needs"**

place frequently used interface elements in easiest to access positions | minimize less used : frequency of use (1-3 clicks away), degree of change (keep to a minimum), avoid risk exposure (erasing or losing input,

altering usability)

### **avoid hierarchies**

most people are not used to "nesting" elements/objects within other elements/objects

bring desired info to the front, rather than asking user to dig for them (multiple clicks)

## **"CONSIDERATE" SITE DESIGN**

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### **be a good friend**

"remember me from last time"

### **defer to user interaction**

accept user behavior

### **offer useful information based on input**

people who bought this, also bought...

### **anticipate user needs**

load pages in the background

### **avoid error messages**

validate your pages

### **provide transparency for important things**

make sure what the user will likely need is readily available

## **INTERFACE PARADIGMS**

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### **implementation-specific**

user must know how the software works in order to use it (pen tool in AI, for instance)

org-chart-centric

site is set up to reflect organizations structure, rather than what the user wants to know/how user will likely navigate through options

### **metaphoric**

icon design represents function or content item

can be confusing when an icon can represent several different tasks (make flight reservation, or check eta?)

### **idiomatic**

relies on users' ability to extrapolate meaning: menus, title bars, close boxes are learned behaviors; using a mouse relies on learning, but is quickly adapted into user behavior/skill

good idioms only need to be learned once

idiomatic symbols are given meaning that has nothing to do with the graphic (branding)

metaphors are difficult to develop for concepts and most processes, rather than things

limits us to use what we know now, rather than what might be

## **MANUAL AFFORDANCE**

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"Affordance" (coined by Donald Norman) is the perceived use of a thing – how a thing can be used.

Manual Affordance (Cooper, Reimann, Cronin) is the intuitive knowledge that something can be manipulated.

Use of 3D illusion in interface design mimics real life opportunities for physical interaction; however, there

are more uses for these things, hence result is not always what's expected. Many interactive interface objects may require labels - iconographic or text - or they might create false impressions.

site buttons should always change in some way when interacted with

## **VISUAL INTERFACE DESIGN**

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visual design's intent is clear communication

graphic design is concerned mainly with design for print; interface design is concerned with design for visual communication AND function/behavior – more give and take, or interaction, involved with interface design principles

visual “information” designers focus on presenting content to promote understanding through fundamental design principles and hierarchy

### **developing good interactive interface requires:**

**shape** primarily defines what an object is

**size** creates a hierarchy that assigns importance to objects

value uses light and dark/contrast to imply importance or data; can also be ordered (create a hierarchy) in terms of color or shades (rain areas, vs no precipitation on map, altitudes, charts and graphs)

**hue** can draw attention but is also culturally charged. Too many colors is also confusing, making focus difficult

**orientation** can communicate direction; best used as secondary means of communication

**texture** in general is not useful and can interfere with easy communication as it can compete with content; but it can lend visual cues to interactive elements (3D buttons, etc.)

## **VISUAL INTERFACE DESIGN PRINCIPLES**

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### **group like elements to create a clear hierarchy of information/importance**

create a consistent look to like items (all buttons are this way, all content areas are that way) to create visual patterns, which make identifying these objects more readily identifiable

develop a hierarchy based on importance; what does user need to know instantly, what are secondary pieces, etc.

use interface design principles to identify hierarchy; use more saturated colors for important elements, less saturated for others; use each judiciously! – not a lot of everything (elegance)

group elements that are used often, or “go together” logically (menu items)

spatial grouping to minimize mouse movement

develop structure in each content area that provides a continuous visual experience

visual grouping (borders, boxes) to separate content and imply relationships (call out boxes)

### **be consistent in graphic approach, and use appropriate symbology to match context**

grouped objects should be aligned horizontally and vertically; align as many elements in a layout as possible:

- align labels / buttons

- align control objects (check boxes, radio buttons, etc.)

- use the same grid within separate groups

use a grid to arrange content according to use; modular grids offer more flexibility in layout  
design simply and consistently  
advantages to using a grid:

style and function must work together  
avoid unnecessary decorative elements and visual clutter

## **DON'T MAKE ME THINK** by Steve Krug

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Web pages are like billboards; we scan them for key words/phrases.

Create a clear visual hierarchy of information (most important/broad down to most specific/detailed)

Group like items so they relate in terms of logic as well as proximity.

"Nest" content within broader categories

Use conventions; those things that are consistent on every/any site. They make it easier for users to move around more effectively and quickly

Break content into clearly defined areas.

Make buttons/links obvious; don't use vague labels or terminology; use "already clicked" symbology so people know where they've already been

KISS; eliminate visual noise

Keep the amount of text to a minimum (exception, articles, tutorials, etc.); avoid "welcome to..."; pare instructions to barest minimum possible

:: Jakob Nielsen:: search-dominant users (people who ask for help) vs. link dominant users (independent types)

Home pages are like the North Star – you know how to get where you want to go from there because there are no physical landmarks to ground us

Searchable content is like asking a store clerk where something can be found (if at all).

No way of knowing how large/in-depth a site is because there are no physical boundaries = hard to know when to stop looking for something (use different colors for visited links so people know where they've already been).

No sense of direction (left | right) Up | down refers to site hierarchy of information/topics

Without navigation, there is no site – no way to get there from here

Navigation creates a tacit agreement between the site and the visitor; the visitor trusts that it's accurate and will perform in an expected manner based on experience.

Good navigation tells you what's available on a site

Good navigation tells you how to use the site

Good navigation creates trust in the site

Using conventions create ease of use; we know where to find/expect certain things to be

Consistent position, and content, of navigation (persistent navigation) is critical to user comfort

Persistent navigation includes: Site ID, sections/topics, a link to home, a search option, and utilities (shopping cart, etc.) Two exceptions are checkout/ordering area, and home page.

Site ID = most prominent, or frames entire page. Should look like a site ID (logo or design treatment)

Sections/topics = how the site content is organized. Can also have sub-sections (secondary navigation) for specific areas within a section

Utilities = necessary parts of a site that aren't part of the hierarchy (search, shopping cart, about us, etc.)

Use site ID as home button

Search = use straight forward language (not "keyword search" or "quick search" etc.) Use conventional graphic interface. Avoid the need for instructions for how to use. Avoid options for where the search is occurring, or what's being searched for, unless it's to limit choices to the most pertinent.

Create sample pages for all levels of content to work out consistent navigation.

Give every page a name; have it frame the page content; make it identifiable as the page name; make sure it matches the link wording used to get to that page.

Create a visual way to identify where you are: page button is different in navigation bar somehow. Do not be too subtle.

Breadcrumbs: don't use in lieu of real navigation; best for deep hierarchies or containing multiple sub-sites. Keep it at the top. Use > between words. BF the last word

Use tabs: self evident (you know what they are and how to use them); hard to miss; great opportunity for unique design; create a feel of physical space (front to back); color coding different sections is OK; have one tab highlighted when entering the site ("welcome");

Usability test: at a glance (not after studying things for a while) can you figure out:

1. What site is this (site ID)
2. What page am I on (page name)
3. How is the site organized (sections/topics)
4. What are my options at this point (local/specific navigation)
5. Where am I in terms of the whole site (breadcrumbs)
6. Can I search for something?

Especially important since we often end up in the middle of a site by clicking a search result.

Home Page

1. identity and mission
2. overview of content and features
3. search option
4. content/feature "promotions" to engage
5. updated content to let people know it's always evolving
6. sales/discounts/deals
7. shortcuts to most frequented areas (i.e. downloadable content)
8. registration/sign in if necessary
9. most relevant content above the fold

Must answer 4 questions instantly:

- what is this
- what do they have here
- what can I do here
- why should I be here
- where do I start

Use the tagline as part of the site ID: if it needs additional explaining, add that in a short way; make sure the tag offers differentiation and benefit; mottos are guiding principles, tags convey value

Include a "welcome" blurb (NOT a mission statement)

Make good use of space

Homepage navigation can be more detailed than inner pages, but not too visually separate/different; keep terminology, colors, groupings the same

Be careful about pushing your own personal likes and dislikes in a site design

Use usability testing (not focus groups), rather than opinion, to hone site design and options: shift from right or wrong to what works and what doesn't

Test early and often

Test with average people, not target audience (it's not about the content, but about the ease of use; avoid designing sites that only a specific audience will understand)

Typical testing results include:

- unclear concept for the site
- expected words aren't there
- too much noise to focus

Good sites are considerate; they deliver what the user wants/needs:

- don't hide information that people want (contact info, prices)
- don't make people do things "your way"
- don't ask for information you don't really need
- be sincere, and prove it
- don't waste people's time with "sexy"
- proofread everything!
- make the useful content obvious and easy to access
- be truthful, even if it's not "popular"
- save time by eliminating steps whenever possible
- spend time getting it right and useful
- create a FAQ
- printer friendly pages
- make it easy to recover from an error

Make all sites accessible

- alt tags for all images
- use "label" element for forms
- add "skip to main content" link
- add all keyboard navigation options

Use CSS