



Daniel Murray

@Dmurr68

Your only sales person that works 24/7
is your website.

This is why great copy and content
matters.

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Constraints, Discoverability & Feedback

MIS3506*Spring 2025

The background of the slide features several thin, curved lines in a light gray color, some solid and some dashed, creating a sense of motion or flow. On the left side, there is a dark blue rectangular area with a white question inside. To the right of this area is a bulleted list of four items.

What is a Constraint?

- A limitation or restriction
- A control that limits or restricts
- Something that keeps you within a particular limit
- Limits the number of choices that a user can act upon

What is a Constraint in User Experience?

Client Specific

- Brand, Logo, Guidelines, Attitude

Project Specific

- Timeline, Budget, Goals
- UX – Smooth

Accessibility and Clarity

- Compliance
- Privacy



Is a Constraint always Bad?

What do you do when
you have to operate
something you've
never used before?



Knowledge

- In the Head – Logical, cultural and semantic constraints



- In the World – Physical Constraints



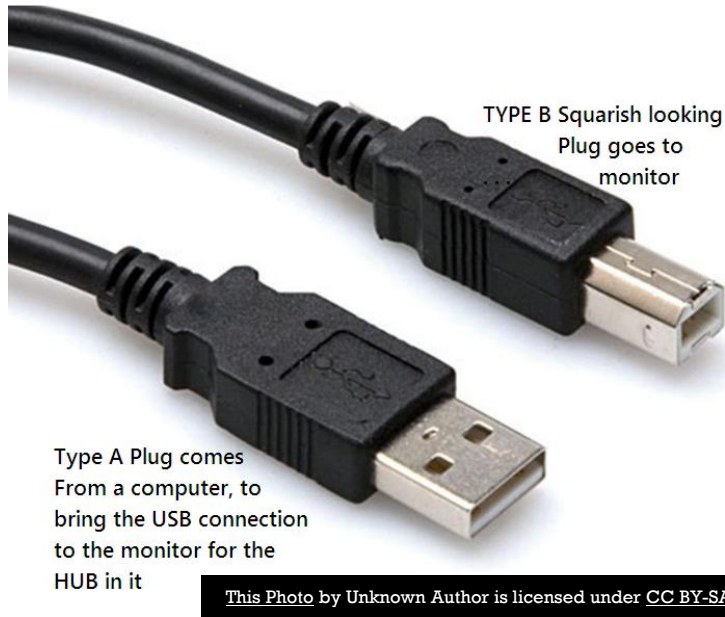


How do you turn that into this?

Constraints



Constraints let people readily determine proper course of action, even in a novel situation (Norman, p. 125)



Physical Constraints:
Limit the possibility of operations with physicality, highly visible

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Physical Constraints

Keyboard and Input Constraints

- Numeric keypads appear when entering phone numbers or credit card details.
- Voice input is an alternative when text entry is physically difficult (e.g., for accessibility needs).

Click vs. Hover Constraints

- On mobile, hovering is impossible, so dropdown menus must open on tap instead.
- Tooltip-based instructions are ineffective on touch devices without alternative triggers.



Cultural Constraints:
Conventions Shared by a Cultural Group

Cultural Constraints

E-commerce Checkout Preferences

- **Example:** Western users may expect credit card payment as the default, while in China, WeChat Pay and Alipay are more common.
- **Impact:** A site that only offers Visa/MasterCard may alienate Chinese users.

Date and Time Formats

- **Example:** The U.S. uses MM/DD/YYYY, while most of the world uses DD/MM/YYYY.
- **Impact:** Ambiguous date formats can lead to errors in scheduling or payment processing.



Semantic Constraints:
Rely on the Meaning of Situation to Control the Actions

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Semantic Constraints

Tooltips and Contextual Hints

- Hovering over a disabled button displaying a tooltip like “You must agree to the terms before continuing” provides a semantic constraint on user actions.

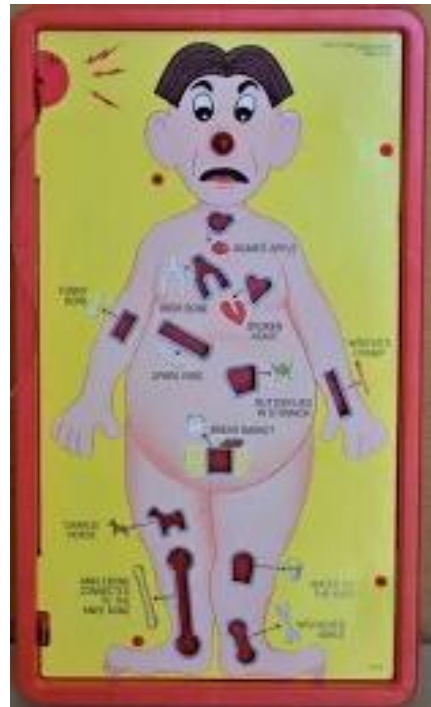
Form Field Labels and Placeholder Text

- A text field labeled “Email” semantically constrains users to enter an email address rather than a phone number or other information.

Placeholder text like “Enter your work email” reinforces the expected input.

Navigation and Page Structure

- A “hamburger menu” icon is semantically constrained to represent a collapsible navigation menu.
- A breadcrumb trail indicates hierarchical navigation and suggests movement within a structured system.



Style 1

DOB
Enter the date of birth

DD / MM / YYYY

Style 2

Date of Birth
Date format DD/MM/YYYY

_ / _ / _

Logical Constraints:
Make use of reasoning and logic to determine possible actions

Logical Constraints

•Button States (Enabled/Disabled)

- “Submit” button remains **grayed out** until all required form fields are completed.
- “Next” button in a checkout process is disabled until the user provides valid payment details.

Context-Aware UI Changes

- A messaging app prevents users from sending empty messages.
- A file upload button is disabled until a valid file is selected.

Constraints – some thoughts to consider

Logical – Tell a user to select 5 things & only 4 are readily visible – what does that tell the user?

Logical constraints = good conceptual model

Cultural – scroll bar on the right – what does that tell the user?

Physical constraints make some actions impossible: there is no way to ignore them.

Logical and cultural constraints are weaker in the sense that they can be violated or ignored, but they act as valuable aids to navigating the unknowns and complexities of everyday life.

Semantic constraints – one part conditions what the other part is likely to be

Handling Constraints in a Design Project

- IBIT project experience: designing a website for a local bakery
- Needed to make sure the platform could be integrated with Clover (the client's current POS system) and Hazlnut (the ordering system associated with Clover)
- **Google is your friend—do your RESEARCH!**



Order Summary



Sweet Potato Bun (dozen)

\$6.60

Kind: Bun

Qty 1

Remove

To check out, your order subtotal must be \$10.00 or more.

Subtotal	\$6.60
Tax	-
Shipping	-
Total	\$6.60

Schedule a Lesson - Gibson School of Music and Arts

Please fill out this form to request a virtual lesson. We will call you back within one business day to schedule your lessons.

NOTE: In response to COVID-19, we are hosting sessions virtually for the health and safety of our students. Also, we continue to offer private music lessons and classes at GMA School following the CDC guidelines.

* Required

Email address *

Your email



This is a required question

Feedback

- The information that you give your users about the effect of the action they've taken or the state of the request they have submitted
- The visible response that one gets from performing an action

Characteristics of Good Feedback

- Specific – concrete and relatable
- Timely (immediate!)
- Appropriate
- Focus on the Behavior
- Descriptive
- Not judgmental
- Accurate
- Enhances – does not leave the user wondering what happened

Tools for the Designer



Constraints

In Teams: Define Each of the Constraints in your Own Words and Provide an Example

Physical

Cultural

Semantic

Logical

ICA Breakout Rooms

Let's pick an industry...

- ▶ Design three interactions with constraints for your new UX

Design Principles

