Universal Principles of Design

Part 3

Reading Summary

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How Can I Enhance The Usability of a Design

80/20 Rule

Accessibility

States that the artifact designed should be usable by all type of people. Even people with visual or auditory disabilities. The four characteristics of accessibility in terms of design are:

- Perceptibility

  Is when everyone can see the design.

- Operability

  Is when everyone can make use of the design.

- Simplicity

  Is when everyone can understand the design and it's usage.

- Forgiveness

  Is when designs allow the users to make mistakes and still continue with a good user experience

Aesthetic-Usability Effect

Designs that look good to the user are easier to use for them than designs that don't look good. Aim to follow new design trends as that is what sets what looks good.

Affordance

Guides how the physical characteristics of an object can change its function. Choosing good physical elements for your object can allow it to better afford the task you want the user to accomplish. A circle affords rolling better than a square. A handle affords pulling, a flat plate affords pushing on doors. Creating objects in user interfaces that people see in the real world allow them to understand what that object can afford

Confirmation

Requiring the user to confirm their actions when they are about to do something dangerous with negative consequences.

Consistency

Give elements consistent styling.

Constraint

Reducing the amount of actions that can be preformed on an artifact to improve the user experience for the limited set of operations that remain

Control

The level of fine detail and operational control inside an artifact is directly related to the skill and experience levels of the target market.

Cost-Benefit

Assessing financial return of further optimizing design. Don't focus on things no one will ever use.

Entry Point

The first point of contact for an artifact with a real user.

Fitts' Law

Further away a target and smaller it is, it makes it harder to move a pointing device to it.

Forgiveness

Using feedback and good design a user should be able to quickly recover from an error without consequences. Somethings that can help with forgiveness are: good affordances, reversibility of actuons, safety nets, confirmations, warnings and a help option

Hick's Law

When a user is presented with many options, the more options there is the longer they will take to make a decision.

Hierarchy

Showing which artifacts inherit from which other ones allows the user to have a better understanding of how the system works which results in a better user experience.

Iconic Representation

Use an image to represent some data. There are 4 type.
Similar icons: images that directly show an action or event (road sign, upcoming turn)
Example icons: an image that indirectly points to an action or event (airplane for a airport)
Symbolic icons: Very high level concepts. (using padlock to show a locking button)
Arbitrary icons: No association to action or event, connection has to learned. (radiation sign)

Immersion

When you like the user experience so much you forget about the real world.

Interference Effects

When the user is thinking about more than one thing at a time, it causes them to be slower. 4 types.

Stroop Interference: Irrelevant element conflicts with a relevant element. (harder to name colors if the word is in a different color)

Garner Interference: Irrelevant VARIATION of element conflicts with relevant element. If an element is placed near changing elements, processing will be slower

Proactive Interference: Past memories conflict with current learning.

Retroactive Interference: Learning new things messes with memory of old things. (new phone number messing up old one)

Layering

Involves presenting one group of information at a time. Three dimensional layering allows the user to view more than one layer at a time If you have a high level of complexity, you layering to present it in chunks the user can manage

Mapping

Refers to how a control causes an action. Good mapping is when what you expect to happen, happens, Bad mapping is when something happens that you didn't expect when you triggered a control. Always try to have good mapping so the user isn't confused and can use your application easier

Mental Model

A user creates a representation of the system in his mind by using their previous experiences. When people look at the results of interactions with real life events that align with a systems mental model, they can better predict how the system will react to their inputs.

Mimicry

Copying objects from the real world so the user knows what the virtual object can afford.

Performance Load

The more you demand from a user the higher the chance that the user will give up and the task will not be completed. Two types are cognitive load (mental) or kinematic load (physical).

Progressive Disclosure

Showing more information and options only when required and keeping them hidden when they are not applicable

Readability

Important factors here are: word length, word frequency, sentence length, and number of syllables and clauses in a sentence. Just means how easily the user can read and understand your text or information

Recognition over recall

It is easier for users to identify things they have already seen when represented to them than it is for them to recall it without any hints or stimulus.

Signal-to-noise

A ratio between how much useful information is on a page compared to how much useless information is on the page. You always want the highest signal to noise ratio

Visibility

An interface becomes easier to use if its controls, and statuses are easy to view at all times