Design Concept: Examples of Good and Poor Design

Good Design (Examples & Features)

1. **User-Centered** – Interfaces like Google Search and Apple's iOS prioritize simplicity and usability.
2. **Consistency & Clarity** – Apps like Airbnb use uniform navigation, fonts, and colors for a seamless experience.
3. **Feedback & Responsiveness** – E-commerce sites like Amazon provide real-time responses (e.g., loading indicators, success messages).
4. **Accessibility & Inclusivity** – Websites with alt text, voice navigation, and scalable fonts ensure usability for all.

Poor Design (Examples & Issues)

1. **Cluttered UI** – Overloaded dashboards with too many buttons, like early MySpace pages, confuse users.
2. **Inconsistent Navigation** – Websites with different menu placements on each page disrupt user experience.
3. **Lack of Feedback** – Forms that don't show errors or loading indicators leave users uncertain.
4. **Non-Responsive Design** – Websites that break or become unreadable on mobile devices frustrate users.

Example	Why It's a Good Design?
Google Search	Simple interface, fast response, and helpful autocomplete suggestions.
Apple iPhone UI	Consistent icons, smooth animations, and intuitive gestures.
Tesla Touchscreen Dashboard	Minimalist layout, easy-to-read controls, and voice commands.
Amazon One-Click Checkout	Saves user preferences, reducing checkout time.
Elevator with Clear Button Labels	Buttons are large, readable, and give feedback when pressed.

Ask

Example	Why It's a Poor Design?
Overcrowded Website (e.g., old Yahoo homepage)	Too much text, unclear navigation, and cluttered layout.
ATM with Poorly Placed Cancel Button	Users accidentally cancel transactions because of misleading button placement.
Confusing TV Remote with 50+ Buttons	Difficult to find the main controls among unnecessary functions.
Unlabeled Door Push/Pull Handles	Users don't know whether to push or pull, causing frustration.
Apps with Slow Loading & No Progress Indicator	Users don't get feedback, leading to confusion and abandonment.

Definition of Interaction Design

1. **User-Experience Focused** – Interaction design (IxD) aims to enhance the way users interact with digital products for efficiency and satisfaction.
2. **Five Dimensions Model** – It includes words (text), visuals, physical objects, time (animations), and behavior (user interactions).
3. **Human-Computer Interaction (HCI)** – It ensures seamless communication between users and digital systems (e.g., buttons, gestures, touch controls).
4. **Prototyping & Testing** – IxD involves iterative design processes like wireframing, usability testing, and refining based on user feedback.

Key Principles of Interaction Design:

1. **Usability**: The design should be easy to use and understand.
2. **Feedback:** Users should receive clear responses to their actions (e.g., button clicks, form submissions).
3. **Consistency**: Maintain uniformity in design elements (e.g., buttons icons) across the product.
4. **Affordances**: Design elements should suggest their functionality (e.g., a button should look clickable).
5. **Learnability**: Users should be able to quickly learn how to use the product.
6. **Accessibility**: Ensure the design is usable by people with diverse abilities.

Goals of Interaction Design:

- Enhance user satisfaction and engagement.
- Simplify complex tasks.
- Create seamless and enjoyable user experiences.
- Anticipate user needs and behaviors.

The User Experience (UX)

1. **User-Centered Approach** – UX focuses on meeting user needs by designing intuitive, accessible, and enjoyable interactions.
2. **Usability & Functionality** – A well-designed UX ensures ease of navigation, clear instructions, and efficient task completion.
3. **Emotional Connection** – Good UX creates a positive emotional response, building trust and engagement (e.g., friendly microinteractions, smooth animations).
4. **Consistency & Accessibility** – A seamless experience across devices and for all users, including those with disabilities, enhances overall satisfaction.

How users perceive a product, such as whether a smartwatch is seen as sleek or chunky, and their emotional reaction to it, such as whether people have a positive experience when using it.

(Hornbæk and Hertzum, 2017)

Hassenzahl's (2010) model of the user experience

- Pragmatic: how simple, practical, and obvious it is for the user to achieve their goals
- Hedonic: how evocative and stimulating the interaction is to users

Relationship Between Interaction Design (IxD) and User Experience (UX)

1. **IxD is a Subset of UX** – Interaction Design focuses on designing smooth and intuitive interactions (buttons, forms, gestures), while UX covers the entire user journey, including usability, emotions, and accessibility.
2. **IxD Enhances UX** – Well-designed interactions (e.g., clear navigation, responsive buttons) make the user experience more seamless, efficient, and enjoyable.
3. **UX Research Guides IxD** – User research helps designers refine interactions by prioritizing important actions and simplifying complex tasks.
4. **Both Aim for User Satisfaction** – While IxD ensures smooth interaction, UX ensures the overall experience is meaningful, leading to better engagement and usability.

Demonstration of UI/UX Tool: Figma

1. **Design & Prototyping** – Figma allows users to create wireframes, UI designs, and interactive prototypes for websites and apps.
2. **Real-Time Collaboration** – Multiple users can work on the same design simultaneously, making it ideal for teamwork and feedback.
3. **Component & Asset Management** – Designers can reuse components (buttons, icons) across projects, ensuring consistency and efficiency.
4. **Cloud-Based Accessibility** – Since Figma runs in the browser, users can access and edit their designs from anywhere without installing software.

Problem Space

The **problem space** refers to the scope of an issue that needs to be addressed through design.

It involves **understanding users' needs, identifying pain points, and defining design goals**.

Key Considerations

1. **Who are the users?** – Understand target audience demographics, skills, and behaviors.
2. **What problems do users face?** – Identify usability issues in existing systems.
3. **What tasks do users need to perform?** – Define user goals and workflows.
4. **Where will the interaction take place?** – Consider device types (mobile, desktop, AR/VR).
5. **Why is a new design needed?** – Justify improvements over current designs

Steps to Define the Problem Space

- Conduct **user research** (surveys, interviews, observations).
- Create **personas** to represent typical users.
- Perform **task analysis** to understand user workflows.
- Identify constraints (technical, budgetary, accessibility, etc.).

Example

A food delivery app struggles with **long checkout times and order confusion**. The problem space includes:

- Users abandoning carts due to **complicated UI**.
- Need for **streamlined payment options**.
- Lack of **order tracking clarity**.

Conceptualizing Design

1. Conceptual Model

A **conceptual model** is a simplified way of thinking about how a system works.

1. **Mental Representation** – It helps users understand how to interact with a product based on their expectations.
2. **Familiarity Matters** – Good designs match what users already know (e.g., a shopping cart icon for online purchases).
3. **Reduces Confusion** – Clear models make interfaces easier to use (e.g., drag-and-drop features).
4. **Example** – A file folder system on a computer mimics real-life physical folders.

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2. Interaction Types

These define how users engage with a system.

1. **Instructing** – Giving commands (e.g., clicking a button to submit a form).
2. **Conversing** – Interacting through text or voice (e.g., chatting with a chatbot).
3. **Manipulating** – Directly handling objects (e.g., dragging files into a folder).
4. **Exploring** – Navigating a virtual space (e.g., using Google Maps).

1. Theories of Design

Design theories help explain how users perceive and interact with digital systems.

1. **Gestalt Theory** – People naturally group similar elements together, which helps in designing organized and visually appealing interfaces.
2. **Hick's Law** – The more choices a user has, the longer they take to decide, so simplifying options improves usability.
3. **Fitts's Law** – Larger and closer objects (like buttons) are easier to click, guiding placement decisions in UI design.
4. **Norman's Design Principles** – Focuses on key usability factors like visibility, feedback, and affordance (e.g., a clickable button should look pressable).

Models and Frameworks in Different Ways

1. Models (Descriptive & Process-Oriented)

Models help explain how users interact with designs and how the design process flows.

1. **Mental Model** – How users think a system should work based on past experiences (e.g., a shopping cart in e-commerce).
2. **Five Dimensions of Interaction Design (5D Model)** – Words, visuals, physical objects, time, and behavior define interactions.
3. **Fitts's Law Model** – Predicts how easy it is to reach a target based on its size and distance (used for button placements).
4. **Norman's Execution-Evaluation Cycle** – Describes how users form goals, take actions, and evaluate results in UI interactions.

2. Frameworks (Guidelines & Structural Approaches)

Frameworks provide structured methods to approach UI/UX design systematically.

1. **Double Diamond Framework** – Divides the design process into four phases: Discover, Define, Develop, and Deliver.
2. **User-Centered Design (UCD) Framework** – Focuses on user needs, iterative testing, and usability improvements.
3. **Human-Computer Interaction (HCI) Framework** – Studies how users interact with technology to create better designs.
4. **Design Thinking Framework** – Consists of five phases: Empathize, Define, Ideate, Prototype, and Test, encouraging creative problem-solving.

Example of Conceptual Models

Example

A **photo editing app's conceptual model**:

- Users expect to **upload, edit, and save images**.
- Tools are arranged **logically** (e.g., "crop" next to "resize").
- Undo/Redo functions enhance usability.
- Google Search: Users type a query (Instructing).
- Siri/Alexa: Users speak and receive responses (Conversing).
- Photoshop: Users edit images by clicking and dragging (Manipulating).