LAB 1: Introduction to UX Design

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User-Centered Design:

User-centered design (UCD) is a collection of processes that focus on putting users at the center of product design and development. You develop your digital product taking into account your user's requirements, objectives and feedback. A more formal definition is the one provided by the Interaction Design Foundation:

"User-centered design (UCD) is an iterative design process in which designers & other stakeholders focus on the users and their needs in each phase of the design process. UCD calls for involving users throughout the design process via a variety of research and design techniques so as to create highly usable and accessible products for them."

User-centered design vs. Human-centered design:

User-centered design is very often used interchangeably with human-centered design, but there is a difference in that. Simply put, all users are humans, but not all humans will be your users. Thus, UCD requires deeper analysis of users (your target audience). It is not only about general characteristics of a person; it is about particular habits and preferences of target users to come up with right solutions for specific problems.

UCD takes into account age, gender, social status, education and professional background, influential factors, product usage expectations & demands and many other important things that may vary for different segments. What is critical for some may be irrelevant for others. UCD is about deep research on users' habits, from their interactions with the product to their vision of how the product should look like & behave.

User-centered design and UX:

User-centered design improves the user experience. It helps to understand users' needs and preferences regarding features of a product, task, goals, user flows, etc. At the end of the day, it has become one of the most important user experience requirements – that of being user-centered. It should be implemented throughout the entire customer experience, no guessing, no personal opinion. What matters is what your users say and do. Every "touchpoint" that the customer has with the product should be analyzed, well design and developed.

Five major UCD principles

1. A clear understanding of user and task requirements.
2. Incorporating user feedback to define requirements and design.
3. Early and active involvement of the user to evaluate the design of the product.
4. Integrating user-centered design with other development activities.
5. Iterative design process

Usability

Usability refers to the ease of use and effectiveness of a product or system. Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process, consists of 5Es which are effective, efficient, engaging, error tolerant, and easy to learn.

Nielsen divides usability into five elements, so-called attributes, which can be measured and used to specify usability objectives. They are learnability, efficiency, memorability, errors prevention and user satisfaction.

1. **Learnability**

   Basically, ease of learning means that a user must be able to learn how to use a system as quickly and as easily as possible. However, different learning times are acceptable, depending on the type of system. If a UI is intended for a specific purpose for advanced users, the learning time can be longer. In interaction design, e.g. using both icons and text labels for action buttons makes learning easier.

2. **Efficiency**

   Means how fast a user can perform tasks once she has learned to use a system. There are also some users who do not need to learn to use a system fully, but are satisfied when they have learned its basic functionality. One way to improve efficiency is by adding hidden shortcuts for frequently used functions. Also, simplicity in interaction and visual design can make a more efficient UI possible.

3. **Memorability**

   Applies to users who have already become familiar with a system, but some breaks occur in using it or they use it very seldom. Memorability measures how well users can remember different functions after they have learned the functions. This kind of use is typical e.g. with programs that are used to run monthly reports.

4. **Errors prevention**

   The UI should be clear enough so that the users make as few errors as possible. An error can be defined as a function performed by a user that does not lead to the aimed result. Simple errors that are quickly corrected by a user are not counted separately, but they come out when measuring the effectiveness of a system. Some errors occur always, but the number of errors can be reduced.

5. **Satisfaction**

   Satisfaction with a system means basically how pleasing it is to use. It affects the user's motivation and thus the effectiveness of use. This element has similarities with the emotional aspects of the UX, and it can be related to things like visual design, trends, brand image and feelings.

User Interface:

User interface (UI) design is the process designers use to build interfaces in software or computerized devices, focusing on looks or style. Designers aim to create interfaces which users find easy to use and pleasurable. UI design refers to graphical user interfaces and other forms, e.g., voice-controlled interfaces.

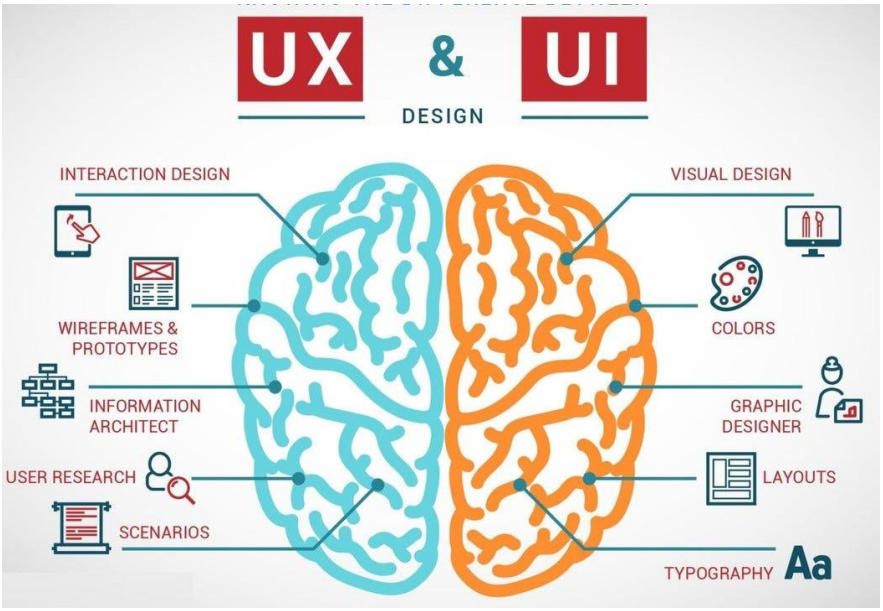
1. Graphical user interfaces (GUIs): Users interact with visual representations on digital control panels. A computer's desktop is a GUI.
2. Voice-controlled interfaces (VUIs): Users interact with these through their voices. Most smart assistants, e.g., Siri on iPhone and Alexa on Amazon devices, are VUIs.
3. Gesture-based interfaces: Users engage with 3D design spaces through bodily motions: e.g., in virtual reality (VR) games.

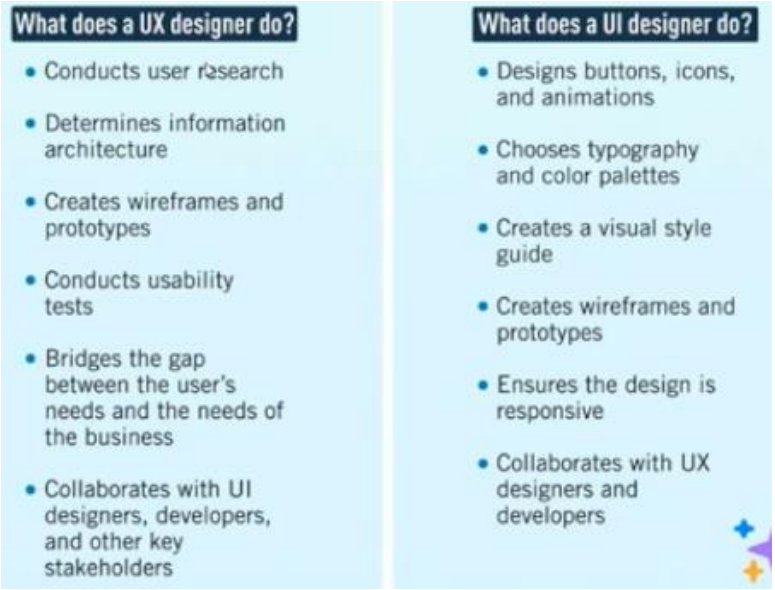
To deliver impressive GUIs, remember users are humans, with needs such as comfort and a limit on their mental capacities. You should follow these guidelines:

1. Make buttons and other common elements perform predictably (including responses such as pinch-to-zoom) so users can unconsciously use them everywhere.
2. Maintain high discoverability. Clearly label icons and include well-indicated affordances: e.g., shadows for buttons.
3. Keep interfaces simple (with only elements that help serve users' purposes) and create an "invisible" feel.
4. Respect the user's eye and attention regarding layout. Focus on hierarchy and readability:
    - Use proper alignment. Typically choose edge (over center) alignment.
    - Draw attention to key features using:
    - Color, brightness and contrast. Avoid including colors or buttons excessively.
    - Text via font sizes, bold type/weighting, italics, capitals and distance between letters. Users should pick up meanings just by scanning.
5. Minimize the number of actions for performing tasks but focus on one chief function per page. Guide users by indicating preferred actions. Ease complex tasks by using progressive disclosure.
6. Put controls near objects that users want to control. For example, a button to submit a form should be near the form.
7. Keep users informed regarding system responses/actions with feedback.
8. Use appropriate UI design patterns to help guide users and reduce burdens (e.g., pre-fill forms). Beware of using dark patterns, which include hard-to-see prefilled opt-in/opt-out checkboxes and sneaking items into users' carts.
9. Maintain brand consistency.
10. Always provide next steps which users can deduce naturally, whatever their context.

UX vs. UI:

UI refers to the screens, buttons, toggles, icons, and other visual elements that you interact with when using a website, app, or other electronic device. UX refers to the entire interaction you have with a product, including how you feel about the interaction.





Tasks:

1. Introduce to UX design principles and guidelines
2. Examples of good and bad UX designs
3. Conduct usability testing on a website or app
4. Develop a simple wireframe or prototype for a basic website or app