1. What is User Experience?

- User experience (UX) design is the **process design teams use to create products** that provide meaningful and relevant experiences to users.
- This involves the design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability and function.
- The **user experience** (**UX** or **UE**) is how a user interacts with and experiences a product, system or service.
- It includes a person's perceptions of utility, ease of use, and efficiency. Improving user experience is important to most companies, designers, and creators when creating and refining products because negative user experience can diminish the use of the product and, therefore, any desired positive impacts; conversely, designing toward profitability often conflicts with ethical user experience objectives and even causes harm. User experience is subjective.

2. Explain UX Design Life cycle process.

- It is a structured framework consisting of a series of stages and corresponding that characterize the course of evolution of, in this context, the full evolution of an interaction design or a complete system or product.

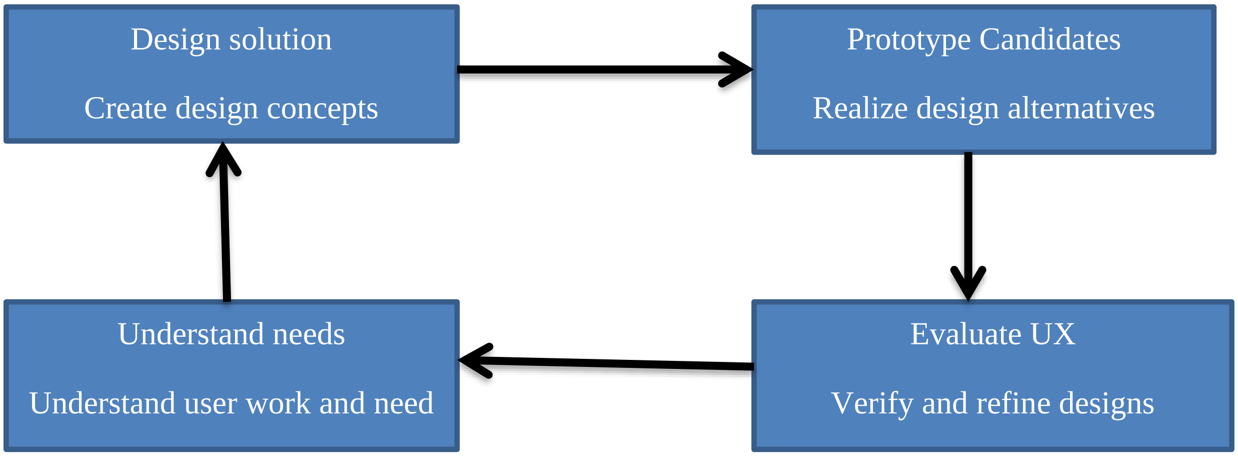
□ UX Lifecycle Activities

□ Understand Needs (of users).

□ Design Solutions.

□ Prototype Candidates (for promising designs).

□ Evaluate UX

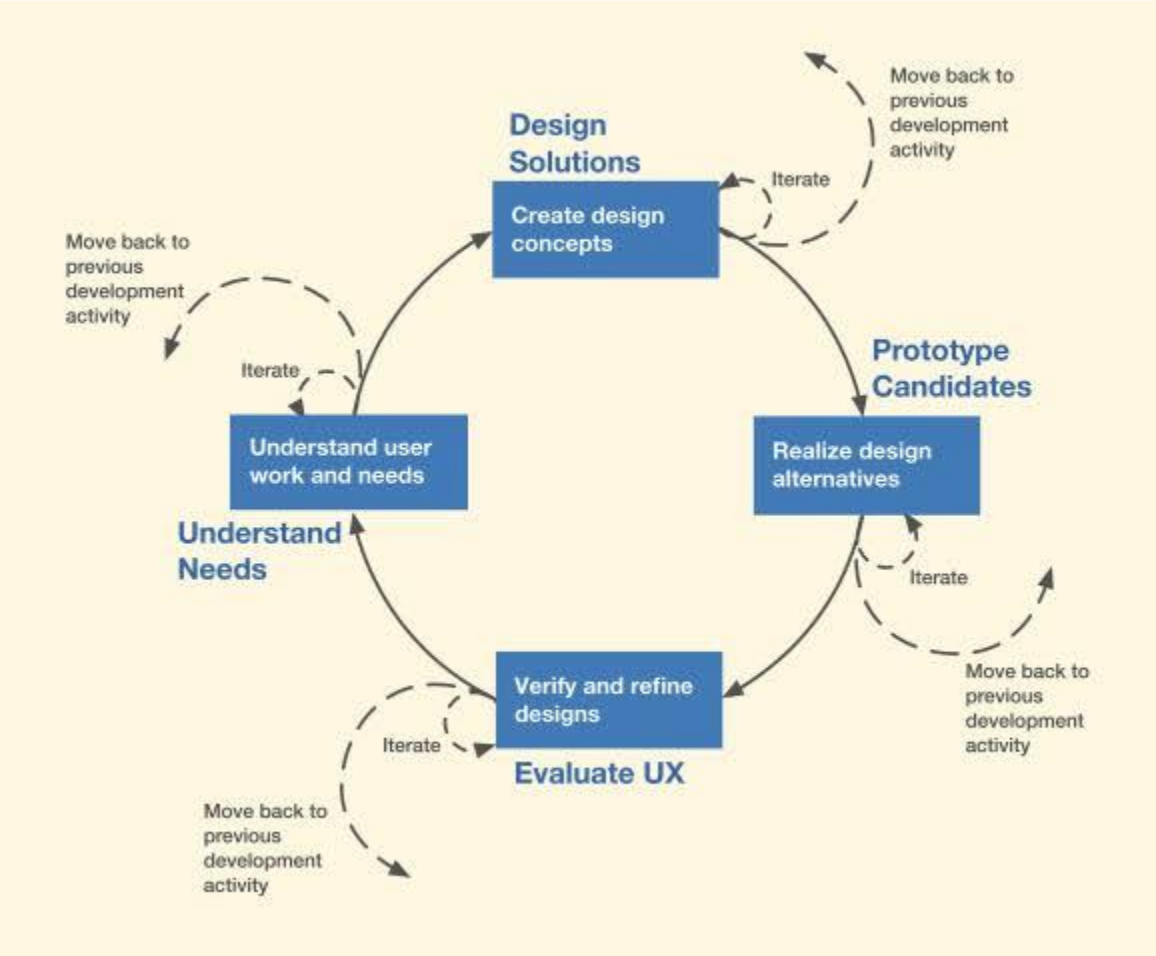


3. Mention and explain the fundamental UX Lifecycle Activities with appropriate Diagram.

In this topic, we look more in depth at the individual UX design lifecycle activities and sub activities:

The four basic UX lifecycle activities:

- **Understand Needs**, to understand users, work practice, usage, the subject-matter domain, and, ultimately, needs for the design.
- **Design Solutions**, to create designs as solutions.
- **Prototype Candidates** (of promising solutions) to realize and envision promising design candidates.
- **Evaluate UX**, to verify and refine designs with respect to the user experience they afford.


Design Solutions
Create design concepts
Iterate
Move back to previous development activity
Prototype Candidates
Realize design alternatives
Iterate
Move back to previous development activity
Verify and refine designs
Evaluate UX
Iterate
Move back to previous development activity
Understand user work and needs
Understand Needs
Iterate
Move back to previous development activity

The Understand Needs:

- The Understand Needs lifecycle activity is used to understand the business domain, users, work practice, usage, and the overall subject-matter domain. The most popular method is some variation of usage research and the most rigorous version includes these sub activities

- Data elicitation: Interview and observe users at work and gather data about work practice, users, usage, and needs.
- Data analysis: Distill and organize usage research data.
- Data modeling: Create representations of user characteristics, information flow, tasks, and work environments (for collaboration, sharing, archival, rehearsal, immersion).
- Requirements extraction: Codify needs and requirements ese sub activities,

The Design Solutions:

Design Solutions is perhaps the most important lifecycle activity and the one with the broadest preview. Typical sub activities of this activity change dramatically over time as the project and the product evolve and mature through these basic "stages"

- Generative design: Ideation and sketching to create design ideas, low-fidelity prototyping, and critiquing for design exploration.
- Conceptual design: Creating mental models, system models, storyboards, low fidelity prototypes of conceptual design candidates.
- Intermediate design: Developing ecological, interaction, emotional design plans for most promising candidates, creating illustrated scenarios,
- Wireframes, medium fidelity mockups of design forerunners, and identifying design tradeoffs to compare design candidates.
- Design production: Specifying detailed design plans for implementation of the emerging design choice

The Prototype Candidates:

Prototyping is a full-fledged lifecycle activity to realize and envision promising design candidates.

The main sub activity is to create representations of design to required fidelity in the form of:

- Paper prototypes.
- Wireframes and wire flows.
- Click-through wireframe prototypes.
- Physical prototypes.

The Evaluate:

This activity is about verifying and refining the UX design to ensure we are getting the design right.

Sub activities and possible alternative methods for the Evaluate UX activity to assess, verify, and refine designs might include:

- Collect evaluation data: Evaluate designs with empirical or analytic methods to simulate or understand actual usage and produce evaluation data.
- Analyze evaluation data (for identifying critical incidents, root causes).
- Propose redesign solutions.
- Report results.

4. Explain the UX Design Techniques as Life Skills in brief.

- **Observation**: Observation is the practice of witnessing an ongoing activity with the objective of understanding underlying phenomenon
- **Abstraction**: Abstraction is the practice of removing detail irrelevant to a given objective.
- **Note Taking**: Note taking is the practice of efficiently capturing descriptions of observations
- **Data/Idea Organization**: Data organization is the practice of sorting data by category to make raw data understandable
- **Modeling**: Modeling is the practice of representing complex and abstract phenomenon along particular dimensions to simplify and aid understanding.
- **Storytelling**: Storytelling is the practice of using narrative to explain aspects of a phenomenon or design with the objective of immersing the audience in the phenomenon.
- **Immersion**: Immersion is a form of deep thought and analysis of the problem at hand-to "live" within the context of a problem and to make connections among the different aspects of it
- **Brainstorming**: Brainstorming is the practice of interactive group discussion for exploring different ideas, problems, and solutions
- **Sketching and Drawing**: Sketching in UX is the practice of drawing simple pictures and diagrams depicting the essence of problems and solutions.
- **Framing and Reframing**: Framing and reframing comprise the practice of posing a problem within a particular perspective.
- **Reasoning and Deduction**: Reasoning and deduction is a long-standing practice of applying logic to process observed facts, fit them together, and arrive at a logical conclusion.
- **Prototyping and Envisioning**: Prototyping is the practice of producing or building a model or mockup of a design that can be manipulated an used at some level to manifest or simulate a user experience, which can be evaluated.
- **Critical Thinking**: Critical thinking is the practice of "objective analysis of facts to form a judgment. The subject is complex, and there are several different definitions which generally include the rational, skeptical, unbiased analysis or evaluation of factual evidence."
- **Iteration**: Iteration is the practice of repeating a cycle of analysis, design, prototyping, and evaluation to refine an understanding of a concept or to improve a design as a problem solution.

5. What is Rigor?

- ➢ The rigor of a UX design lifecycle activity, method, or technique is determined by the degree of formality, thoroughness, precision, and accuracy with which you perform all the steps.
- ➢ It is also about how meticulously you maintain and document completeness and purity of data-especially usage research and UX evaluation data-collected.
- ➢ Rigor is the only Digital Experience Monitoring (DEM) solution designed to find, fix and prevent web performance defects to improve the user experiences the drive revenue for the enterprise.
- ➢ It is cloud based and on-premise user monitoring and innovative website performance optimization capabilities to enable fast and reliable deployment of digital applications and websites that improve agility, efficiency and confidence.

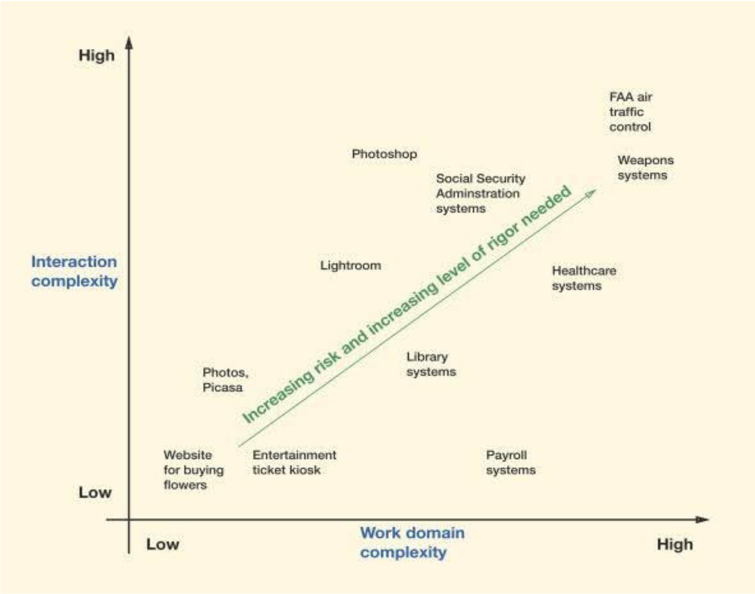
6. Explain Domain and interaction complexity with appropriate diagram.

●Domain complexity

- ➢ Which is about the degree of intricacy and the technical, or possibly esoteric, nature of the corresponding field of work. Convoluted and elaborate mechanisms for how parts of the system work and communicate within the ecology of the system contribute to domain complexity.
- ➢ Low work-domain complexity means that the way the system works within its ecology is relatively simple.

● Interaction complexity

- ➢ It is about the intricacy or elaborateness of user actions, including the difficulty of cognitive actions, necessary to accomplish tasks with the system
- ➢ Low interaction complexity usually corresponds to systems that support smaller tasks that are generally easy to do, such as ordering flowers from a website.
- ➢ High interaction complexity is usually associated with larger and more difficult tasks, often requiring special skills or training, such as manipulating a color image with Adobe Photoshop



7. What is Scope of Delivery?

- Our use of the term "scope" refers to how the target system or product is "chunked" in each iteration or sprint for delivery for agile implementation.
- In a large scope, chunks are composed of multiple features or even large portions of the system.
- In a **small scope**, synonymous with agility, chunks are usually comprised of one feature at a time.
- **Large scope**: Design the whole house first and build it all before delivering it to the client including Electrification, Plumbing, Interior walls.
- **Small scope**: Design one room (for example, the kitchen) first, build it, and deliver it to the client, and follow up with another room, say the living room, and so on, in a series of "increments" until the whole house is completed.

8. Mentions Challenges in Building systems.

Change Happens During a Project:

Evolution of project requirements and parameters

- Requirements (statement of system needs).
- Product concept, vision.
- System architecture.
- Design ideas.
- Available technology

External changes

- Technology available at the time.
- Client's directions and focus (possibly due to shifting organizational goals or market factors)

Two Views of These Changes

- Reality
- Designer's understanding of these changes

The Gap Between Views

Responding to Change

Closing the Gap

True Usage is the Only Ascertainer of Requirements

Communicating Feedback About Requirements

- Communication problems on the user's side
- Are not necessarily knowledgeable about technology and the overall system.
- Might have trouble formulating problems in their own minds (e.g., inability to abstract from problem instance details).
- Might lack the ability to articulate feedback about requirements.
- Might give feedback based on what they think they want.
- Have biases about certain aspects of the system.

9. Draw and explain the funnel model of Agile UX

The funnel model of agile UX, a way of envisioning UX design activities before syncing with agile SE sprints (for overall conceptual design in the early funnel) and after syncing with SE (for individual feature design in the late funnel).

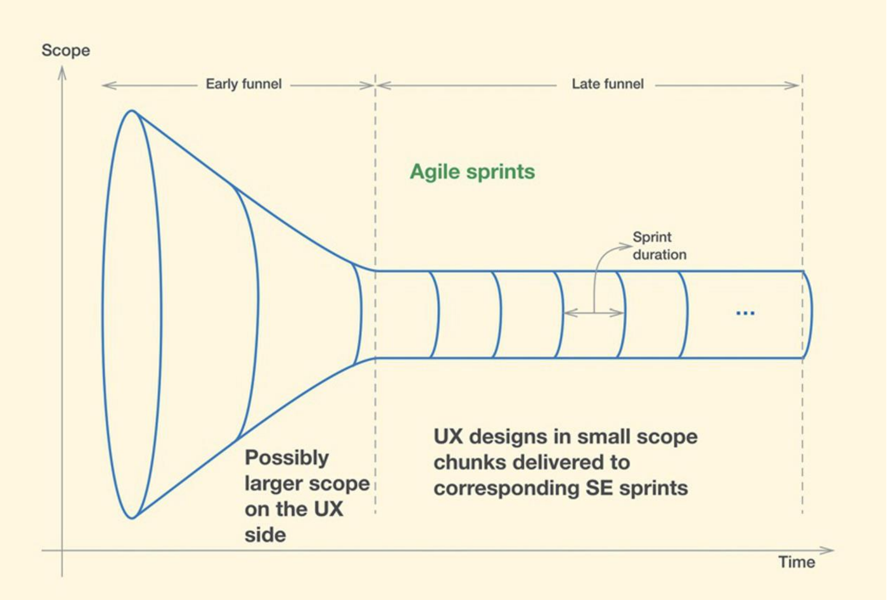
Scope in the funnel model

- The vertical dimension of the diagram is scope. A larger funnel diameter (taller in the vertical dimension of Fig.) at any point on the funnel represents a larger scope there. And a small diameter means smaller scope at that point.

Fig. shows a typical case where the scope of the early funnel is larger than the scope of the late funnel.

Speed and rigor in the funnel model

- The horizontal dimension of the diagram is time, representing how long activities in the funnel take to play out.
- The stripes or segments depicted on the funnel visually represent iterations or sprints and the length of a segment represents the duration in time of that sprint and, by implication, the speed of methods and techniques that have to be used in a given iteration.
- Longer sprints usually correspond with higher rigor, which will need methods and techniques that are more thorough and meticulous for that iteration.


Scope
Early funnel
Late funnel
Agile sprints
Sprint duration
...
Possibly larger scope on the UX side
UX designs in small scope chunks delivered to corresponding SE sprints
Time

Late Funnel Activities

- The late funnel, or the “spout” on the right side of Fig., is where the agile UX and agile SE processes are working in synchronism.
- Here, the goal of both the UX and SE sides is typically described in terms of small chunks within a small scope (represented by the small diameter of the funnel spout) delivered within a relatively small time increment (narrow sprint duration stripe).

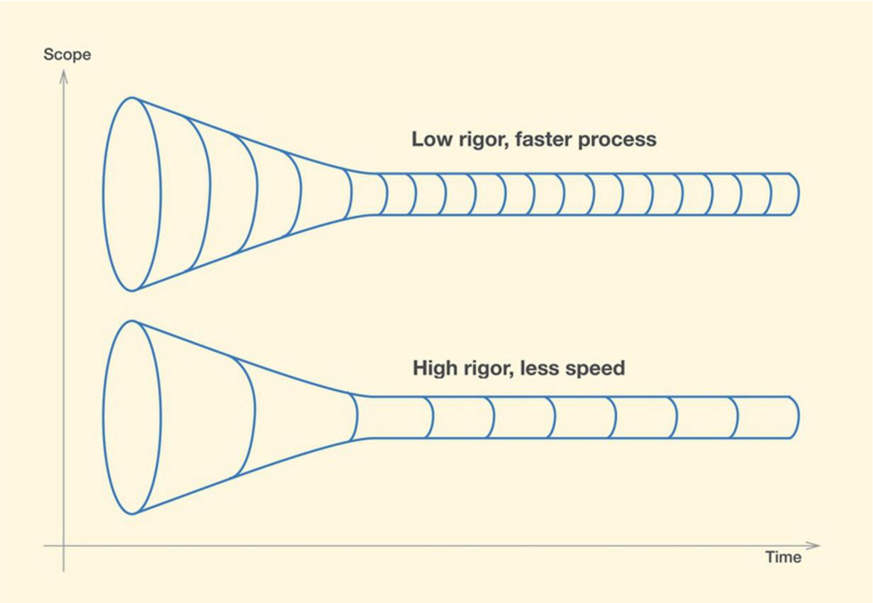
Early Funnel Activities

- Before we can do the small-scope incremental releases in the synchronized late-funnel flow of Fig., we have to start with a full-scope analysis and design up front in the early funnel.
- UX must start the design for a new system with a top-down view to understand the ecology and needs and to establish a conceptual design.
- This is a requirement for UX because of the nature of UX design. Unlike code that is invisible to the user, UX design is not. Code is malleable in that it can be structured and refactored in every release. Redoing the design of the UI like that will drive the users crazy.

This upfront UX activity, the solution to the second problem described in Section, which is sometimes called “sprint 0” because it precedes the first sprint in the late funnel, is to establish:

- An overview, a skeleton on which to put the features.
- A solid coherent conceptual design to guide the design for the features.
- An initial top-down design.

The funnel model of agile UX, shown in Fig, has two major parts: the early funnel on the left and the late funnel on the right.


Scope
Low rigor, faster process
High rigor, less speed
Time