UX AND UI STRATEGY

A Step by step Guide on UX and UI design

PAMALA B. DEACON

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Contents

CHAPTER ONE

A Brief Introduction to User Experience (UX) Design

User experience is mainly about designing the perfect ideal experience of using a product or service. User experience includes every aspect of the users with a company, including its products. Advances in data computing and information technologies have fundamentally transformed how products and services are produced and consumed; thus, user experience becomes paramount in meeting customers' needs without any trouble or dissatisfaction. UI (user interface) and UX (user experience) describe a set of concepts, guidelines, and principles for discerning the design and use of a product, map-based or otherwise. This term separates UX design and UI design. Norman's frameworks are a guiding model for understanding the user experience with an interactive model, stating how different UX design visuals can be applied at different stages of the interactive process.

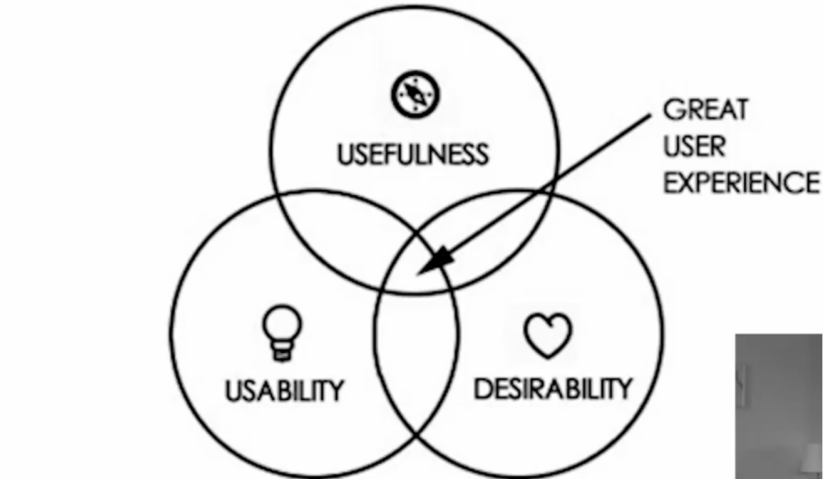
UX and UI are very crucial to the success of any business. That is why they are in the top 10 Linkedin search skills in 2020. It's paramount for businesses to learn how to build a great user experience .

Complexity and perception of User Experience (UX) design

As the name suggests, UX refers to designing a perfect scenario of using company products or services with utmost satisfaction. Since the birth of a contemporary era, technologies have become increasingly complex, and applications and websites' functionalities have become far wider. Early websites were simple pages that provide information to searchers; however, a few years later, we can find online sites that are more interactive and offer a richer satisfaction for users hence the need for an ideal user experience design .

Definition of User Experience (UX)

The word “user” is the nominal form of “to use”; the word originated from the Latin verb “oeti,” meaning to apply or use something, exercise, or perform. In contrast, the word “experience” originated from the Latin word “experienta,” meaning knowledge gained from continuous practices and trials. User experience (UX) is the knowledge gained from doing something or satisfaction derived from using a product or service.



User experience (UX) is how people feel when they use a product or service. It’s an ideal situation where customers get maximum satisfaction from consuming a product or service. User experience is a form of satisfaction that a consumer gets from consuming a product or service. It also includes meeting customers’ needs without any dissatisfaction or trouble. There is a high user experience when customers’ demands or needs are met beyond their expectations.

User experience can also be seen as the total experience of a person using a product regarding how easy it is to use. The key to every successful business is to render ‘user-friendly’ products or services. User experience can include all types of products; in most cases, it involves websites or

applications of some form. Every form of human-object interaction has a corresponding user experience .

What is Design?

Design is the process of bringing into existence the products and the services that people use. It involves producing an ideal product or service for consumer satisfaction. The design makes products usable for people in this contemporary era. Design is user-centered; users are always at the heartbeat of the design thinking process .

What is Design Thinking?

Design thinking is the repetition of steps in which we seek to understand the user, difficulties and assumptions to identify alternative strategies to produce an ideal product and service for consumer satisfaction. Design thinking provides solutions to problems relating to user experience .

What is UX Design?

User experience (UX) is building a product in a manner that provides a solution to customer problems to gain customer loyalty for a continuous business relationship. User experience involves putting the end-user at the center of the universe. User experience is the process of creating products and services that provide useful and relevant experiences to users. It involves designing the entire process of acquiring and integrating the product, including branding, design, usability, and function. User experience can be seen as the various means of improving the quality of interaction between a user and every aspect of a company. User experience can be defined as the process of designing products that are useful, easy to use, and delightful to the end-user .

Who is a User?

The word "user" is always associated with user experience; you will hear words such as user-centred, user-goals and of course, "user experience". The word "user" is highly prioritized within the field of UX. A user is a person having experience from the use of company products or services. The user first impression is vital in gaining the loyalty of such a user. A user is usually seen as a king in the world of businesses .

History of UX Design

User experience design is a term which is mainly associated with apps and websites. And especially when considering a typical job description of a

UX designer, it can trick you into thinking that it's a modern concept.
The word was first originated in 1993 by Don Norman when he worked at Apple Computer, but the UX field is older than the term.
The history of user experience (UX) is important in understanding this field. History can provide immeasurable insights into the future. So let's have a look at user experience design and its origins.
Over the years, UX design is a term that we have constantly associated with apps and websites. There is a need to know that User Experience is not a new phenomenon, particularly when the UX designer's job is considered.
Don Norman, the Cognitive psychologist and designer, originated the term "User Experience" in the 1990s, but UX has been recognized for some decades.
What is the necessity of all these? Aren't we supposed to be looking at the future rather than the past?
Theoretically, the history of UX is vital to comprehend this essential field. When we get exposed to its origins, elements, and what stimulates it, we get equipped to shape the future better. If UX is new to you, this is an overview of the field, but if you're an expert, it gives you a new insight on UX.

4000 BC: FengShui and why space is significant

You're probably pondering what has primordial Chinese philosophy gotten to do with UX design, don't get yourself all worked up because the association isn't far-fetched.
Far back as 6,000 years, he rigorously translates as "wind" and "water" and states that objects should be arranged in an orderly manner (e.g., furniture) concerning energy flow. "In reality, FengShui has means placing objects in your environments in the most ideal, pleasant, or user-friendly way, either in a bedroom, an office, or an entire building. It encompasses everything from layout and framework to colors’ and materials.
Just the way an interior designer would organize the furniture so that the inhabitant can easily navigate the room, a UX designer also applies related principles to building a mobile app. The result is the same, that is, to create a Spontaneous, user-friendly experience. Based on this, it can be said that FengShui was amongst the first facilitators of the UX concept.

500 BC: Ancient Greeks and ergonomics

The origin of UX can also be traced right back to Ancient Greece. By all indication, it can be suggested that, as early as the 5th century BC, Greek

civilizations structured their tools and workplaces to suit ergonomic principles.

The human factor is "the scientific discipline that focuses on connections amongst humans and other elements are understood and the line of work that uses principles, theory, data, and methods to design as well as enhance human well-being and their general system performance.

One of the resilient signs the Ancient Greeks were aware of ergonomic principles is how the Hippocrates analyzed how to set up a surgeon's workplace. He talked about the lighting in the room, the position of the surgeon —"either sitting or standing in a position that seems relaxed to him"—and the way the tools are organized; "they must be easy to reach whenever they are required, and they must be properly placed in a way that would not obstruct the surgeon."

Doesn't it remind you of the concept of UX Design?

The early 1900s: Frederick Winslow Taylor and the quest for workplace productivity

Frederick Winslow Taylor happened to be a mechanical engineer and pioneer of Taylorism—otherwise known as Scientific Management. In his quest to augment human labour, making it more efficient, he single-handedly conducted extensive research to discover the interactions between workers and their tools.

However, in 1911, he stated, "The Principles of Scientific Management," in which he indicated that systematic management is the way out of inefficiency.

Although Taylorism was generally criticized because it condensed people to mere cogs in a machine, Taylor's concentrated on optimizing the relationship between humans and their tools.

The 1940s: Toyota and the value of human input

Continuing on the need for workplace efficiency, Toyota established its famous human-centred production system. Unlike Taylorism, the Toyota Production System was built upon respect for the individual, and much consideration was paid to creating the best working environment. Also, human input was considered very important and encouraged. Toyota factory workers have an option to pull a cord to halt the assembly line if there's any feedback or suggestions to improve the process, such as usability testing in action.

It characterizes an important step in UX history, considering how attention was brought to the significance of how humans work with machines.

Irrespective of how progressive technology has become, its importance is restricted to its usability—and that's actually what UX design is all about.

1955: Henry Dreyfuss and the art of designing for people

A supplementary key figure in the history of UX design is Henry Dreyfuss; he is an American industrial engineer, well-known for his act of designing and improving the usability of major iconic consumer products as well as the Hoover vacuum cleaner, tabletop telephone, and the Royal Typewriter Company's Quiet DeLuxe model.

Dreyfuss's design philosophy was established on common sense and scientific approaches. In 1955, he wrote "Designing for People," which, in a nutshell, describes UX design: it defines a situation where the designer is said to have failed when the point of contact between the product and the people becomes a point of friction. Alternatively, suppose people feel safe, comfortable, enthusiastic about purchasing, efficient, or even happier by coming in contact with the product. In that case, it then means that the designer is said to have succeeded.

1966: Walt Disney—the first UX designer?

There have been some misconceptions that engineers are the only ones who had a part to play in UX's history. But in this scenario, it is not so because Walt Disney is often recognized as one of the first UX designers in history.

Disney was indeed passionate about creating magical, immersive, almost-perfect user experiences, and how he established Disney World was a real stroke of UX genius. In his article for UX Magazine, Joseph Dickerson summaries the principles guiding Walt Disney for his team of engineers, as he called them: recognize your audiences, fit into their shoes, communicate with color, shape, form, and texture.

Disney imagined a place where "lives can be improved upon with the use of latest technology" - a vision that no doubt today's UX designers share.

The 1970s: Xerox, Apple, and the Personal Computer era

In the 1970s, personal computers kicked off, with psychologists and engineers functioning together to pay more attention to the user experience. Most powerful developments emerge from Xerox's PARC research centre, such as the graphical user interface and the mouse. In many ways, PARC introduces personal computing as recognized today.

In 1984, the original Macintosh was out .

Apple's first mass-market PC featuring a graphical user interface with a built-in screen and mouse feature, since then, Apple has been paying more attention to user experience, from the first iPod in 2001 to the iPhone in 2007. The tech giant, no doubt, became part of coining the term ‘UX design’.

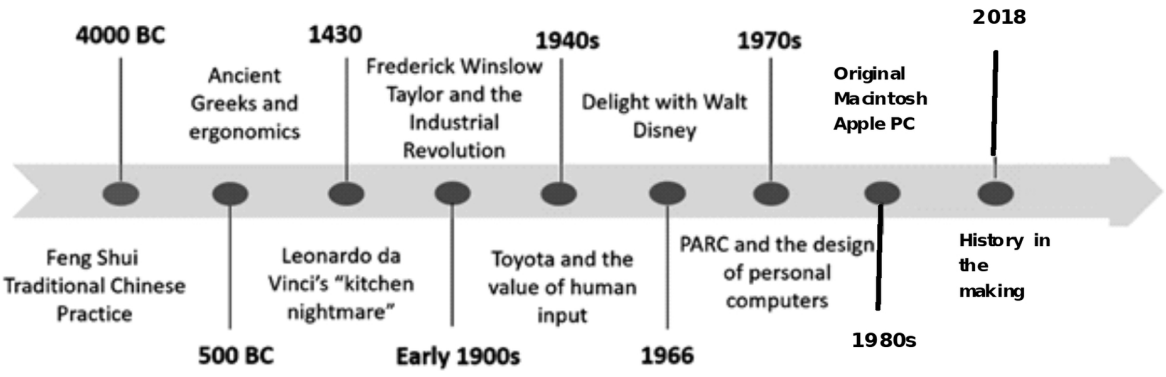
1995: Donald Norman came up with a name for UX Design

At this stage, user experience design was existing — it just didn't have an identity yet. Donald Norman, a cognitive scientist, collaborated with the Apple team in the early 90s as their User Experience Architect, making him the first person to have a User Experience in his job title. Therefore, he came up with the term "user experience design" to integrate all that UX is. Furthermore, he explained why he designed the term because the idea concerning human interface and usability were too narrow: he wanted a situation whereby at each point of the person's experience with a system will be covered, including industrial design, graphics, the interface, the physical interaction, and the manual."

In 1988, Norman published "The Psychology of Everyday Things" (later referred to The Design of Everyday Things)—which remains a UX design indispensable to this day.

2018 and beyond: History in the making

UX design is rapidly developing, and the interesting journey continues. From Artificial Intelligence to voice technology, from Virtual Reality to design without interface—today's UX designers face new challenges day-to-day. Irrespective of what the future holds, it is imperative to know that it'll be as thrilling as the history that heralds it.



The Scope of User Experience (UX)

The relationship between a person and a company across that person life can be divided into three different levels namely;

The Single interaction Level

This level reflects the experience the person has with a company using a single product or device to perform a specific task. The interaction level is the main focus of UX. It is concerned with designing the experience of a single interaction that a customer has with a company to perform a task. A large percentage of UX designers work at this interactive stage; they create the interface for a website or application. Some of the examples of interactive level include receiving help on the phone, filing a claim on in surance provider website e.t.c.

The Journey Level

This level captures the personal experience with an organization as he/she works to achieve a goal using different interactive channels or devices. The journey-level can be seen as the different process a customer goes through to complete goal overtime. Examples include receiving an email confirmation and then check-in the mail .

The Relationship Level

The relationship level is the complex scope of user experience (UX). This level is also referred to as the customer experience level, which focuses on the overall experience that a person has with an organization. Examples include researching, buying and using a product and subscription to a software.

Importance of User Experience (UX)

With the evolution of information technologies in this contemporary era, UX design has become highly important. UX is important in the sense that it helps to fulfill the user’s needs. It helps in providing a positive experience that helps in winning customers loyalty. A great user experience helps in redefining customers journeys on your website, which is a prerequisite for business success.

CHAPTER TW O

User Interface (UI) Design

A user interface (UI) is how users (people) interact with a device. The UI includes hardware and software components. User interface exists for various processes and provides a means of input and output.

The developments and advancement of technology come with great creativity. This creativity has led to advancement and complexity in information technologies. However, most users still prefer things to be simple yet advanced. We need simplicity in product development, and we need simplicity in product use. We need something to fulfill the need of users' to gain their loyalty. The user interface design fits in here. It helps the designer to create an end product logically and. User Interface (UI) design can be divided into four main elements: Usability, Visualization, Functionality, and Accessibility. Design elements can come into use only after we analyze our potential users. If we do not know who will use the product, we do not know what kind of system we should make, hence UI's need. User Interfaces should always consider the end-users need and fulfill their demands.

User Interface Design Considerations

For making the user experience enjoyable, some things should be considered before jumping into the development process. It will help save the developer's time, and also the designer's work will go smoothly. The result will be usable and simple to use. Elements to be considered include the following.

Consistency- "Users do not like inconsistent pages. Inconsistency makes things complex, while consistency provides clarity and simplicity. A software user interface that designers should be consistent with their color, borders, font size, style, and background images and effects.

Suitable choices should be made matching the theme of what to be designed interfaces. For example, suppose we are designing pages for a coffee shop. In that case, the use of coffee-brown color in the background might be a better decision instead of using an unnecessary sharp pink color, which would be more favorable in soft toys selling site for little children. Getting enough information on end-users will help generate an idea of which UI patterns to use and how to use it. Consistency also means doing similar

tasks similarly or familiarly; for example, clicking on the home button or the company's logo in the banner should always take the user to the home page at all times. Consistency in the page layout should contain, for example, header, footer, and body." Consistency helps users remember one's design. It adds the right feels for users to be there, making everything simple to the user. Throwing users different typesetting in different pages, sizes, themes, and colors without any special meaning or reason will surely make users get bored and never return to that site again. Consistency can be achieved by a thoughtful design, potential end-users' research.

Responsiveness- it might not be very pleasant at times for the user if he is being kept waiting over site unresponsiveness. A user always wants a response when he submits his information to a website; he will want to know from the site whether the registration was successful or not and navigates him back to the home page Instead of him receiving a blank html page with no going back option or no other information, it will harm the user's future usage of the site. It also means giving users the feeling that sites or software are listening to them. Nobody likes talking to someone without any response in return. If the page takes time to load, one can provide some visual graphical presentation or any text message that suggests that the page is loading or telling them the progress status.

Familiar words- Use of terms or words already familiar to users from other existing websites help them familiarize themselves with the website fasters. Words such as sign-up, register, and login are very common, so using them on the newly designed pages will help users easily understand the website, which will minimize the learning process.

Streaming- all pages should contain a link to the company's contact information. Users do not like to be troubled unnecessarily. Any unwanted thing should be thrown away; keeping them does not make the interface or the process any better .

User Interface (UI) Design Process

After knowing what user interface design is and what key elements should be considered to get the designing work for the users, it is time to think about the user interface design processes, how it is carried out, and what steps are taken to complete it. Time management is very important during the user interface designing process. Designing the process chart helps to keep with the design, time, and implementation deadline as it becomes

helpful to track down the step one is at. The following are the basic procedural steps of user interface design. The steps are namely.

1. Study the idea of the products and design requirements. The main step to take when designing an application or a system with a specific product is to understands the product itself, what it is, and the logic behind it, why people would demand it. At the same time, it is very important to understand the idea behind the requirement, what it suggests, what it means, and what it demands. It is important to understand why designing for a particular system is important. If the UI design's basic concept is not clear, the whole process will be a mess-up.

2. Do research on potential end-users, study and analyze them. The next step is to understand who the end-user is. This information is needed because the design is done for a particular group of users. Their interest is what keeps the design process ongoing. Researching on what end-users want is very important. It gives us a perfect idea about what kind of features the end users want, what kind of layout they like, what colors they prefer, what level of their computer/internet knowledge, and so on. Information on such little things helps designers to meet the expectation of the end-users.

3. Locate a group of people matching end users. After successfully finding out what kind of people are using the system or application, an intense analysis must understand what they want. A group of potential end-users 5-10 (more or less in numbers) depending upon the size of the application should be found and requested to give some time to take part in the end-user analysis process and help evaluate the design work. Approach to potential end-users should be made, and the number of meetings should be stated beforehand to keep things clean and clear. Questions should not be asked that could bother them, exposed their privacy, or harm them mentally. Promise users some reward for participating in the process and, of course, keep the promise after the task has been done. It will help motivate the users to participate and remain motivated to participate in the whole process next time.

4. Create use cases and test the cases. It is essential to create use cases for the application, and based on that, create test cases. It will help in creating test information for the end-users to test later after the design has started.

5. Create a paper demonstration after the design need is well understood. End users representatives are set, observed, analyzed,, and required use

cases and test cases are written. It is time to create the first version of the demonstration. The basic idea of the application is drawn on a paper. The advanced idea is drawn. More features are added and asked for an end-users opinion.

6. Test and evaluate them with possible end-users; after the demonstrations are done, end users are asked to go through the application's basic idea. Step 5 is repeated for advanced paper demonstration with more features put and more navigation put in there if they understand it.

5. Create advanced dynamic graphical demonstrations. After green lights to the paper demonstration, the mockup design should take better forms. Mockups can be created in a graphical format example is Photoshop to give the real feel of the end product.

7. Implement the design. After the final design has passed all the tests, implementation begins. It can be broken down into smaller pieces/level/version to test and move to the next level.

Elements of Interface Design

Usability

Usability is one of the key elements of interface design. Asking simple questions can help in making the application usable or accessible. The questions can help the user to navigate from one page to another. It is the quality attribute that helps measure ease of use of the user interface of an application or a website. Many factors influence Usability, and something might go wrong. There is no guarantee that the users will stick by the designs all the time. If they do not like something, they might never visit the site again. It isn't easy to please every user. Still, it's better to assure that there are ideally no usability issues or practically at a minimal level. Usability can be divided into five sub-components: 'Learnability', 'Efficiency', 'Memorability', 'Errors' and 'Satisfaction'. These components describe the need for Usability in interface design. They are defined as follows.

Learnability - defines how easy it is to learn a product or website when coming across it for the very first time. The basic tasks or activities should be easy to use. The best the user can learn, the better the design is considered, which is beneficial for the application or website owner.

Efficiency -Efficiency helps measure the fastness of task performance after the learning stage is completed successfully for certain features. Users should be able to accomplish the tasks they want to get the expected result.
Memorability- memorability is the design's ability to make users remember the features after the first visit and first use. The frequency of using a certain website by a user might not be high; this results in forgetting how the website or application is used and navigating to desired pages.
Errors - Users tend to make slight mistakes easily, but that is not important. The important part is how the errors are handled and responded to. The system should address the errors and users with a lot of patience and politeness. They tend to make mistakes because of difficulties in using the website or application.
Satisfaction- Users should not drive the system; the system should drive the users. If the navigation flow is smooth if users get results as they expect. Its means the site/system is usable, and the design is satisfactory.

Application/Website Navigation

It is very necessary to understand the idea of an application or system. What are you doing, and the expected result are two very important questions designers might come up with during the application design stage. So, it is a must to have answers to these questions throughout the design process. It is very easy to get lost when doing bigger tasks. Therefore, it is important to get some techniques to help maintain the work's connectivity and flow. Navigation designing is a way to plan the application with a sequence of actions for ease of Usability.

Layout Design

Another important element or factor to be considered for Usability is layouts and how they are designed. When the application's idea is well understood, and the sitemap is ready, rapid prototyping is started. The layouts give the feel of the application/site with navigation logic. The prototyping or layout designing process should always be broken down into many subunits.

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CHAPTER THREE

User Experience Design Principles (UX)

User experience principles can be defined as a process or outline guiding the use of a product for simplicity, accessibility, enjoyable designs as we select and create organizational elements. Design principles can be seen as the heart and soul of user experience design. User experience is a creative and innovative field that welcomes new ideas from new practitioners and designers. There are some guidelines or principles that designers must adhere to to achieve users and organizational goals. These principles include the following.

Meeting the User's Needs

The main aim of user experience design is to meet the user's needs. Every business organization needs to improve user experience by rendering quality products. They must learn what users are looking for in a design. What might seem brilliant to the organization might not be to the user.

Know your Current Stage in the Designing Process .

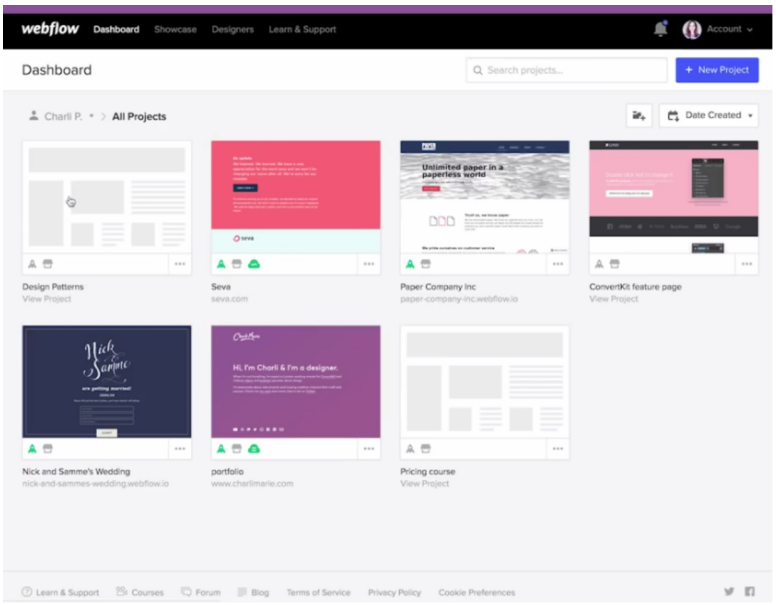
The user experience design process can be overwhelming at times. So knowing your current Stage in the designing process helps you carry out user surveys and user interviews to find out what users need.

A well-defined Hierarchy

One of the user experience design principles that ensure stress-free navigation through the designing process is having a well-defined hierarchy. There are two types of hierarchy. The first type is the hierarchy that explains how content is organized all through the designing process. In contrast, the second one is a graphical hierarchy, which allows users to navigate easily within a page or section without stress or trouble.

Consistency

Users expect products to look familiar with other products they use regularly. It makes it simple for users to become used to the new product without learning the new process. Consistency makes the designing processes easy for designers or practitioners.



Accessibility and Usability

The Designers have to ensure that the design is usable and accessible to as many end-users, including disabling people. Usability, on the other hand, is an important UX design principles. No matter how brilliant or pleasing your design may be, it won't be very meaningful unless there are safety and simplicity in its use.

Simple Metaphor

Simplicity has become one of the best practices in graphic design; UX-focused design should avoid ambiguous terms and use simple words easily understandable by users.

Developing User Experience (UX) Design

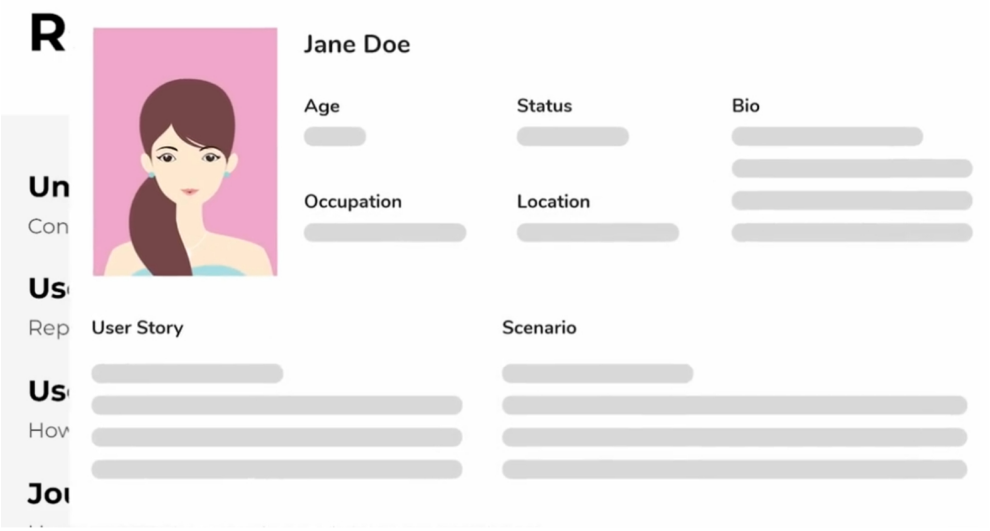
User experience design is the process for improving your product or service users' satisfaction by making it more usable, accessible, and easy to interact with. When you consider that about 80% of users will stop using a product if they don't like what they find and quickly choose another product. Then you can see the importance of UX design.

The followings are user experience design steps to follow when you want to improve or develop your UX design for higher end-user satisfaction and achieving organizational goals.

Understanding User Needs

It will be ideal to know what users need before they ask for it. It can be achieved by creating a user's profile or persona, stating their objectives,

goals, challenges, and other important details. Get yourself acquainted with your audience as it will enable you to cultivate experiences that pertain to your users' opinions and feelings. You may like to make a user identity for a start, an ideal picture of your customer represented based on market research and statistics collected from your existing customer.
Making a persona involves analyzing your customer's data and conduct interviews (internal and external) and surveys. You can as well talk to similar audiences that portray the same characteristics as your present users.



Carrying out Research
Don't assume u know everything about your customers (users). Conduct a survey and research your users. The details from the survey can help in fine-tuning your UX design for better output.
Sketching
After understanding your customers, you will be better prepared to sketch the users' journey by creating an outline or profiling the user's journey for future purposes.
Design
After the sketching stage, you can now incorporate those ideas into a fully-developed website. The design should make users feel as though they have been using the product or website before now. The design should be simple, accessible, and easy to use.
Implementation

When you are done with the designing stage, it is paramount to implement the design and grant users of the UX design complete access.

Evaluation

The more pages viewed and the longer time spent on-site can help evaluate the UX design's success .

Wireframe and its importance

The Wireframe is a graphical guide representing a UI design without visual design or branding elements. UX Designers or practitioners use it to define items on a screen and communicate with the items on that page based on user needs.

The simplest way to think about a wireframe is in terms of building a house. There must be a building plan to guide the engineer in building the house without errors. The building plan can be seen as a graphical or a visual design guiding the building. For user satisfaction, the visual design must be without errors, or it must not be complex for customer use. UX designers use Wireframe to describe and strategize the information order of their design for product or service. This process depends on how the designer wants the user to process data based on research already carried out by the UX designer. Wireframing also allows users to flow with the interface by buttons and menus on the diagrams.

The use of colors, themes, or fancy text doesn't guarantee that a user can easily use a product. Still, when a simple hand-drawn diagram carries out wireframing, it makes it easy for users to use the product easily. Users would be happy if there's a button or even though it's not brightly colored and flashing.

Examples of wireframes

Let's see some examples of wireframes before you start designing yours. It will give you an insight for developing your own and a clue to create them.

Some people might prefer hand-drawn wireframes, while some persons might prefer making software to make theirs. The emphasis would be made on some instruments used to create wireframes. Still, it's important to note that creating yours is your choice: some people can be very creative with their PC while others with paper and pen in their hand.

Whichever method you decide to adopt as a beginner, you should have it in mind that Wireframes can be drawn with pen and paper, or on a whiteboard, can be easily adjusted, which can immensely help the early designing stage

concerning your product or website. Modifications are much flexible at this early stage and less costly than changes considered relevant after coding.
Even though you decide to apply software later on after hand-drawn Wireframe, it's pretty much easier to keep a record of more thorough decisions. It's advisable to start by drawing your wireframes with paper and pen before implementing more comprehensive versions using software or app. It gives you great insight into how data can be shown on the screen.
Importance of Wireframe :

1. Wireframe helps in giving user interface designers a basis to start creating screens.
2. Wireframe serves as a reference point for the development.
3. It helps in communicating the experience with potential users without graphic design elements.
4. It helps in exploring ideas easily.
5. It provides a means for prototyping and testing of ideas.

Wireframing process
As stated above, UX designers have different ways of approaching wireframing; some prefer to draw with their hands, but others prefer the use of tools or apps online. But most times, the decision on what to use still depends on the way you attempt to solve the particular issues and not what the individual prefers.
The bullet points below displays several ways different designers can arrange the procedure from design to implementation:

- ***Wireframe > Interactive Prototype > Visual > DesignSketch > Code***
- ***Sketch > Wireframe > Hi-Def Wireframe > Visual > Code***
- ***Sketch > Wireframe > Visual > Code***

Let's say, for example, if the task is too much. Visual design can be considered insignificant (coupled with many back-end administrative interfaces), then sketch > code is preferable, but if resources and time committed to the project are worth the while. The value of the business is all high. Investing the time to ensure a high-definition wireframe and going over a series of testing with a fully-realized interactive prototype makes more sense.

Wireframing Tools

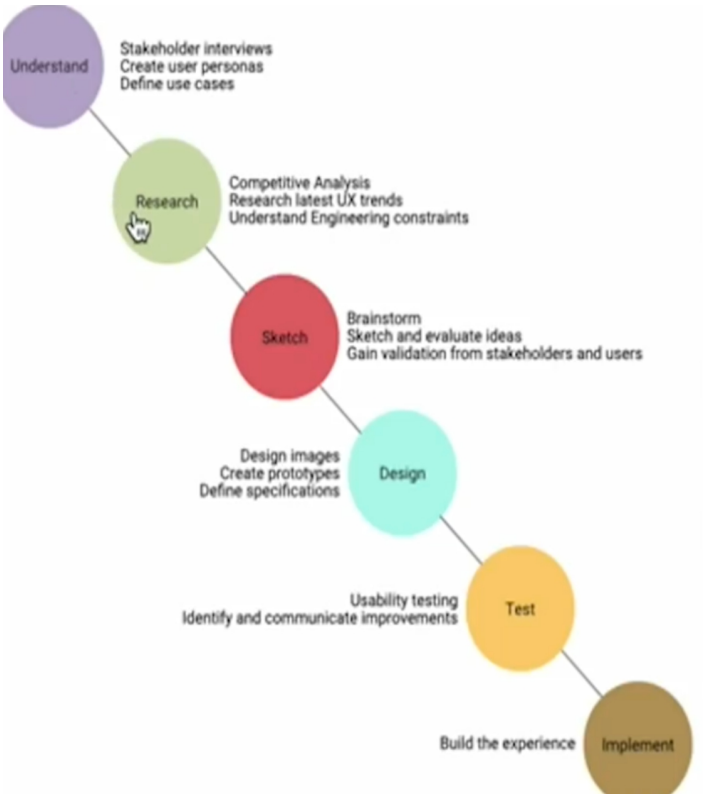
There are loads of tools that are free to create wireframes and prototypes. Therefore, you ought to experiment with so many of them to find suitable ones for you. Don't fail to recall that you can make use of pen and paper. Listed below are some online tools that are mostly considered appropriate.

UXPin : Considered to have an extensive range of purposes, but a major function is its ability to facilitate building responsive clickable prototypes straight in your browser.

InVision : It enables you to facilitate feedback directly from your team and users using clickable mock-ups of your site design. It's free as well.

Wireframe.cc : It offers you the tools to construct wireframes extremely fast within your browser, that is, the online form of pen and paper.

How to make your wireframe



1**. Research**

UX design is a procedure, and wireframing isn't the first step in UX design principles. Before you even consider picking up a pen and paper, you are supposed to have considered the first two steps; namely, understanding your prospective users are through research, listing requirements, creating user personas, and defining user cases; what does this mean? It simply means analyzing related product lines to your, excavating prevailing UX trends and best practices. For sure, that means carrying out a study on similar product lines to your own, unfolding prevailing UX trends and best practices, and, of course, going over your core design guiding principle.

2. **Do the Research a Reference Point**

You can envisage how massive the quantitative and qualitative data of those various phases will create. Anyway, it's what you have to keep in mind while sketching your wireframes. As a human, you might find it difficult to remember all of that or even retain actually; therefore, scribbling a cheat sheet with your business is recommended and user objectives (your requirements), your personas, use circumstances, and maybe some cues of the imperturbable attributes you came across in your competitor research. A small number of selected quotes from your audience can enable your

attention to be fixed on the user's experience, which is, at no time, fail to recall—what you're designing.

3. **Mapped out your User flow**

Your wireframing can be easily disorganized if you lack ideas on how many screens you will produce and the flow you expect the user to follow. It's essential to have an impenetrable idea of wherever your users will be coming from (which marketing channel, for example, and off the back of what messaging), and exactly where you aspire they'll end up. If you're already used to UX vocabulary, your in-house voice will be consecutively screaming "user flows" and "information architecture".

4. **Draft, don't draw. Sketch, don't illustrate**

Finally, we'll start putting our pen to paper. Don't get tired that it's taking long because the adage "look before you leap" is very much relevant in UX, making the previous steps very important.

Anyway, let's get some wires on your frame. Remember: you're outlining and expressing features and formats, not demonstrating expansively or sufficiently.

There's nothing more critical than a blank piece of paper, so you have to start putting your ideas down straightaway—that's the most important aspect of step three. In the main time, don't consider aesthetics; that is colors, the UI designer can handle that, but if you're the only designer at your inexperienced startup stage, you'll do that later. A nice, profuse marker pen (a Sharpie, as people in the US, would call it) is a convenient instrument at this wireframing stage.

As soon as you have a few differences in your first screens, you may intend to do a bit of combined wireframing with a colleague who is also a designer or product manager.

It simply means that you should take your wireframes from the paper and onto a whiteboard and do rough work on them. Ask a very crucial question; "Are we making something usable that would meet our audience's needs?"

5. **Add some detail and get testing**

Your flow is available at this stage, and you have your screens, and you've corroborated your ideas with some clued-up colleagues. The next step is to include some useful details to enable your wireframe ready for its upgrade, Megatron-style, to prototype-mode.

Include detail to naturally process a screen or the page of a book: from top-to-bottom and left-to-right. Don't forget that your wireframe is just your site's skeletal form that serves as a connection to the main parts. You do not include the main thing yet—the content and the copy.

Reflect on the following:

Usability conventions are the placing of the navigation at the top next to your logo, having a box at the top right used for searching, and so on.

Indications of any functionality that can be added to a prototype transition

As soon as you've done all that, you're prepared for your first user tests. At this level, your users may be referred to as your colleagues. Something amazing about the humble wireframe is that it serves as a mutual language amongst designers, stakeholders, web, and app developers. Examples of such tools are Usability Hub to preference test screens, collect qualitative feedback, and check to understand the basic user flow.

With this tool's help, you can picture and upload your hand-sketched wireframes and then attach them to user button overlays; very brilliant.

6. **Turn your Wireframes into Prototypes**

Once you've succeeded in documenting and acted upon the feedback gotten from your prototype, you can start organizing your most reliable prototypes. And of course, there are various slick tools out there used for this, from Proto.io to Adobe XD and Framer, but the most recognized are Sketch and the browser-based, new(ish) kid-on-the-block, Figma. After your wireframes have been developed in Sketch form, you can bring them into the industry-leading prototyping tool InVision (which, by the way, we made a course in conjunction with) and interlink your screens for the second round of most reliable user testing. At this point, we can say that we've officially moved from wireframing to prototyping.

CHAPTER FOUR

Introduction to Design Thinking

As a designer, an entrepreneur, or an employee, there is always n constant pressure to innovate or do old things in a new way. Innovation can be seen as the key to progress and success. Our levels of thinking for innovation give us the ability to conceive practical ideas and give us the upper hand in competitive industries.

The Apples, Airbnbs, Toyota, Xerox, and personal computers were all borne out of innovation. These companies' challenge is to continue that innovation to maintain a stable position in their respective markets and remain competitive in their respective industry. Innovation cannot be a one-time affair; it needs to be part of the company's DNA. Innovation doesn't always come easily. That's where design thinking comes in.

Design thinking has long been considered the backbone of innovation and the remedy to business stagnation. It has been credited with remarkable feats. It's a concept that has becomes very relevant t o the success of any business.

Origin Design Thinking

Design thinking originally came about to teach engineers how to solve problems creatively, as designers do. The first person to write about design thinking was John E. Arnold, professor of mechanical engineering at Stanford University." In 1959, he wrote "Creative Engineering ," the book that originated the four areas of design thinking. From there, design thinking began to evolve as a "way of thinking" in the fields of science and design engineering, as can be seen in the book of Herbert Simon's "The Sciences of the Artificial " and Robert McKim's "Experiences in Visual Thinking ."

What is Design Thinking?

Design thinking can be seen as an ideology and a process that seeks to solve complex problems in a user-focused way. Design thinking is all about getting things done innovatively to turn your ideas into viable, testable products or pr ocesses as quickly as possible.

The Design Thinking Process

The design thinking process describes a series of processes that bring the ideology of building empathy for the user and turning them into prototypes. Design thinking helps in tackling unnecessary problems or issues; the end-user might encounter.

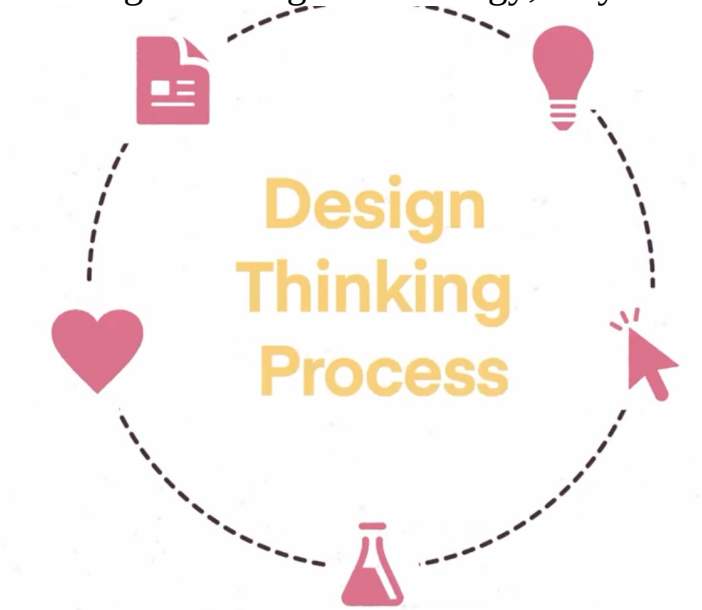
The main characteristic of design thinking is the kinds of problems it solves. When it comes to the problems to be solved with design thinking, we're not just talking about ordinary, common problems that have tried and tested solutions. We're talking about highly complex problems that don't have a solution and cannot be solved using ordinary methods and approaches.

Complex problems are everywhere, ranging from global issues such as climate change and poverty to challenges that affect almost all businesses, such as a change in management, achieving sustainable growth, or maintaining your competitive edge.

Design thinking is an approach that can be used to tackle the world's most difficult problems. It focuses on user-centricity, creativity, innovatio n, and out-of-the-box thinking.

What are the Principles of Design Thinking?

Certain principles are important to design thinking. These are reflected in the design thinking methodology; they are explained in details below;



User-centricity and empathy

Design thinking is all about finding solutions that respond to human needs and user satisfaction. The main drivers of innovations are people, not technology, so an essential part of the process involves stepping into the user's shoes and developing genuine empathy for your target end-user. It

also has to do with getting close to your potential users to know them, recognizes their needs and difficulty when using your product, and build empathy for them by putting yourself in their position. It can be achieved through user testing, interviews, surveys, and basically by talking to people to understand how they feel, act, or think.

Collaboration

Design thinking aims to gather a different variety of ideas; this is what leads to innovation. Design thinking encourages collaboration between different business organizations, multidisciplinary teams, which may not typically work together.

Ideation : Organize ideations segments to come up with many ideas as possible. Ideation, in this regard, is all about thinking outside the box and questioning possible ideas.

Experimentation and iteration

Make a version of your product that can be weighted and tested on real users. Prototypes are a fast, less costly method of testing your idea before it evolves into a complete product. Please note that it is not a final product, so don’t expect it to be pixel perfect; instead, make sure it has a high degree of interactivity built and tested fast. Also, you don’t need an expensive machine for sketching. Still, you can use a pen, paper, sticky notes, or whatever you have to hand, and most importantly, you don’t need to be good at drawing.

A bias towards action

Instead of predicting what users want, design thinking encourages you to get out there and engage with them physically. Rather than talking about potential solutions, you'll turn them into physical prototypes and test them in a real-world possibility .

Application of the Design Thinking Framework

Design thinking can also start small; you don't need to become a UX designer before applying design thinking to your work. You might decide to focus on just one aspect of the design thinking process, such as getting to know your customers and making a conscious effort to be more empathy-driven on a day to day basis. When struggling to gather positive customer reviews, you might choose to conduct user interviews to find out what your customers are missing.

Perhaps you want to focus on the collaborative nature of design thinking, in which case you might hold meeting sessions with representatives from a

different variety of teams.

Examples of design thinking success

Product and service design is the most likely contexts to benefit from design thinking. However, the design thinking framework can solve all kinds of challenges beyond the power of design. Design thinking is increasingly being integrated into business as a way to increase innovation and teamwork. IBM established their Enterprise Design Thinking framework to "*help multidisciplinary teams align around the important needs of their end-users, claiming that businesses that use their framework are twice as quick to get their products to market, 75% more efficient in terms of teamwork, and enjoy a 300% return on investment* ."

Insurance firm MassMutual used a design thinking approach to solve the problem of getting young persons to purchase life insurance.

CHAPTER FIVE

Introduction to User Experience (UX) Design Principles

User Experience (UX) Design is how the users or customers feel about the product and the product developments. It is how people feel when they use a product or service. When a user uses a product, he/she may develop a good or a bad feeling about the product. A UX designer's job is to research the user's experience using a product and find out what side of the design is bothering or giving the users stress and fixing it.

UX design leads to optimization of the user's satisfaction after using a product or service. And that is the reason why UX design is very important in designing. Even when the design is good-looking, but users are bothered by this design, the design must be adjusted or changed quickly for user retention. And these changes should be done in a process that is released by the UX Design department of the organization.

UX design is all about providing meaningful and relevant experiences to users to increase interactions and retention. It can be created with

continuous improvement in designs regarding ease of use and perceived quality. There are several principles to make UX Design a success.

Principles of UX Design

UX design means the development and creation of a product. However, it is mainly used to develop digital-based products such as websites, apps, software, etc. Below is a list of important principles that should be followed by every UX designer to create successful experiences.

Focus on your Users

The main goal of any business is to make the end-users happy. So, UX design's first and essential principle is to focus on the end-users- their needs, expectations, motivations, and problems. A clear understanding of this important stage helps designers build personas profiles for users and focus on them throughout the design cycle. One can discern real users' needs using common user research methods such as interviews, focus groups, contextual inquiry, and shadowing.

Focus on business

For any product to succeed in this competitive world, the UX design must make sense to the end-users. Defining your business goals upfront is highly important too. A good UX design creates a great balance between business goals and user goals. UX design helps in making the end consumers happy while also resulting in increased sales for your business.

Digestibility

The contents of UX design must be clear, simple, and not ambiguous. We chew food into small pieces so that our stomach can easily digest it. The same thing also happens with our design. When the design has long contents/elements/ components, it may bother end-users. For this reason, we have to divide large content into small pieces.

Clarity

Clarity is seen as one of the best principles of UX Design. It's of utmost importance for Designers to make their Designs as clear as possible so that users could not get confused. If the users get confused, the design will receive an inadequate response from them.

"As a user, I should never have to devote a millisecond of thought to whether things are clickable or not" — Steve Krug.

Familiarity

Familiarity is seen as a complement to the principle of clarity. Creativity in UX design is always cordially invited, but it should be disregarded if it creates confusion for users.

Data-informed Design

Design is great not because a designer creates it, but when it passed information from multiple data sources. Designers use data from different sources to make effective design decisions. Data can be qualitative or quantitative. Examples of data sources are users, business and marketing stakeholders, competition, and site analytics. The data-informed design will help business organizations achieve long-term business goals and user goals and give users a great experience, which will eventually help in user engagement and retention.

Validate Designs

Design validation is the evaluation and analysis during or at the end of a Design and development. The major aim of validating designs is to ensure that the design can achieve the set goals. Design validation helps to improve design decisions and maintain Consistency. Some techniques used for design validation are expert review, cognitive walkthrough, formative, and summative usability testing.

Design Consistency

Consistency is the key principle of UX design. A good user experience should provide a consistent experience. It helps users to get used to the product quickly without stress and reduce the learning time. If a user encounters inconsistency, the possibility of him using the app again will be at the minimum. Consistency helps businesses build retention value, credibility, and trust in the company.

Technology Flexibility

Technology is always evolving, and it is changing businesses with it. Once you have validated designs, you need to make sure that the prevailing technology can handle whatever you have designed. Business organizations should be ready to adjust to trending design and technology. There are hundreds of UX design principles applied from a micro to a macro level of design. The main aims of UX design are to Focus on real users, defining and achieving business goals, designing data-informed design, coping up with the ever-changing technology, and maintaining Consistency will result

in making the end customers perform their tasks with simplicity. It will ensure a good User Experience."

UX Designer Job

Having known the definition of UX design and its importance, it's paramount we know that UX designers are important. Let's imagine you're shopping online for the latest clothes. You find yourself in the clothes category, and there are over three hundred latest clothes available. You realize there's no way to filter the unnecessary ones away, which means you have to scroll through hundreds of unsuitable clothes before finding what you're after. You get there in the end and add them to your basket. You're ready to make a purchase and, as a new customer, you have to create a new account and login details. Ok, no problem until you see that there is some mandatory information to be filled in. Buying your clothes on this website starts to feel more stressful than it's worth, so you decide to abandon the website and look elsewhere.

That can be classified as a bad user experience . UX doesn't only apply to websites; any product or service you encounter involves a certain type of experience. The questions bothering on user experience can include; is it easy to use? Does it enable you to complete your desired tasks with minimum effort? Is it logical and efficient? These questions can be indicators of a good or bad user experience."

What does a UX designer do?

If you're considering a career in the field of UX design, it will be interesting to know how UX designers work on a day-to-day basis. What kinds of projects can you expect to work on? What is your duty within a company? What does a UX designer do actually?

"How do I explain what I do at a party? The short version is that I say I humanize technology" — Fred Beecher, Director of UX, the Nerdery. From the definition of Fred Beecher, he sums up the UX designer's role in a very short sentence. As a UX designer, your job is to make products and technology usable, enjoyable, accessible, and easy to use for humans. UX designers tend to work as part of a wider product team. As a UX designer, your main job is to advocate for the end-user or customer satisfaction. Whether you're designing a brand new product, coming up with a new feature, or making changes to an existing product or service—the UX designer must consider what's best for the end-user and the overall user experience. At the same time, UX designers are also responsible for

ensuring that the product or service meets the business's needs, which increases ROI and customer retention.

As for the kinds of projects you'll work on, this will vary differently from company to company, your team's size, and your priorities. You may find yourself designing websites, mobile apps, software, or even designing for voice, AR, and VR devices. Some UX designers focus on a design service rather than physical products, such as designing the overall experience of using public transport or staying in a hotel. Within the UX designer job title, there are lots of specialist roles.

When it comes to UX designer daily tasks, these will also vary depending on your role and the company you work for. Working as a UX designer in a business organization has involved elements of research, testing, business analysis, project management, psychology, and wireframing and prototyping. Despite the variety the role offers, there are some specific functions that a UX designer can be expected to perform; these include:

1. Conducting user research
2. Creating user personas
3. Determining the information structure of a digital product
4. Designing user flows and wireframes
5. Creating prototypes
6. Conducting user testing

It is important to be aware that UX designers are not responsible for a product's visual design. Rather, they focus on the user's path and how the product is structured to facilitate this journey.

CHAPTER SIX

UX Design vs. UI Design

User Experience and User Interface design are two important words that are used interchangeably but refer to different things.

UX design means "user experience design ," while UI refers to "user interface design." The two elements are important to a software or system, and they work together side by side. "But in respective of their closeness, the duties they perform each are quite special, referring to a different perspective of the software or system development stages and the designing process. Before considering UX and UI's key differences, it's of great importance we first define what each term means individually.

UX Design

UX design is a process of designing products for accessibility and simplicity. Don Norman is believed to have coined the term "user experience" in the 1990s. Below is how he defined it:

"*User experience includes a various aspect of the end-users relationship with the company, its products, and its services."– Don Norman* .

Don Norman's definition explained that UX Design includes all interactive sessions between a potential or active customer and a business organization. However, though it's mostly a scientific term, its application since an early age has been almost entirely within the scientific world; the main reason behind this was that industry technology is growing rapidly during invention. UX applies to anything which can be experienced—it can be software or an application, a system, or visitation to the pharmacy. The "user experience" means the interactive relationship between a user and the organization's product. UX *design* takes into consideration all the various elements that determine the experience. A UX designer meditates on how the interaction between a product and a company makes the user feels better. For example: How stress-free is the login system when purchasing online products? How simple is it for you to use that potato peeler? Is it simple for you to make use of your banking app online without stress? The main aims of UX design are to create accessibility, efficiency, satisfaction, and all-around pleasant moments for the end-user.

UI Design

The question of "What UI design?" is hard to answer because of its wide variety of misunderstandings. While UX is a combination of tasks based on

utilizing a product for efficient and stress-free use, user interface design is a supplement to user experience design; it's the look and feel, the representation, and interactive relationship between a product the user.

Looking at the job adverts for user interface designers , you will find the profession's graphic design interpretations. Sometimes, it includes brand designing and development.

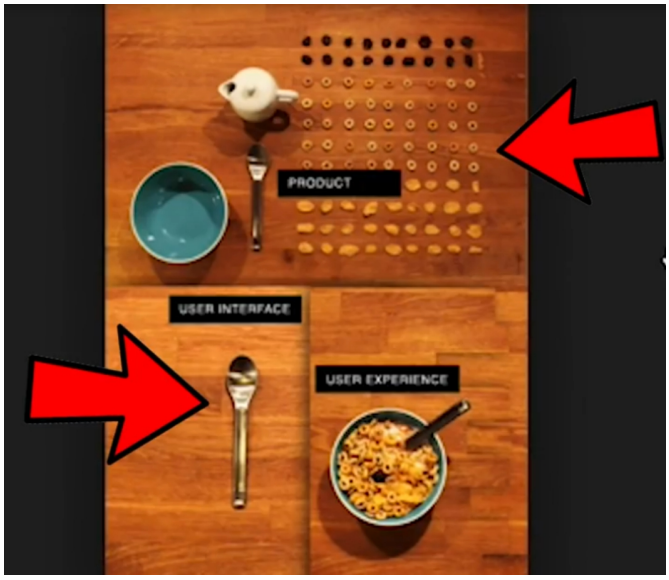
UI design is mostly a digital term. A user interface is an interactive relationship between the user and a software device, application, or product to optimize user satisfaction—like the touchpad on your phone. Concerning software and applications, UI design considers the look, feel, and interaction of the product. It's also about making sure that the UI is as spontaneous as possible. It means the meticulous considerations of every aspect of the visual, interactive elements the user might face. A UI designer will think about the color, theme and buttons , spacing, icons, and imagery.

User interface design is mainly a digital practice. It considers all the visual, interaction elements of a product interface—including design, buttons, icons, spacing, typography, color themes, and responsive design.

UI design's major goal is to lead the user through a product's interface visually and graphically. It's mainly about creating a spontaneous experience that doesn't require the user to worry too much or learn the extra skill. UI design transfers the brand's power and optical property to a product's interface, ensuring the design is unified, visually, and graphically enticing.

The main differences between UX Design and UI Design

For example, using the human body to represent a product, the bones represent the coding that shapes and structures the body. The organs represent the UX design: optimizing and providing the input for supporting life activities or processes. And the UI design represents the body's appearance, representation, senses, stimuli, and reactions.



It's very important to know that UX and UI go side-by-side; they are inseparable, which means you can't have one and abandon the other. However, you don't need to have User Interface design skills to be a User experience designer and vice versa; UX and UI constitute different roles with different processes.

UX design is all about the total experience gotten from using a product or service. In contrast, UI design is more concerned about the appearance of the product's interfaces and function.

A UX designer considers the user's experience journey to find a solution to a particular problem; what steps should they take? Which activities do they need to complete? How stress-free is the experience? Much of UX designer's work focuses on finding different challenges the users will encounter and how they might provide the solution to them. UX designers conduct detailed user research to determine who the end-users are and their needs for a particular product. They'll then point out the user's journey around a product and create wireframes that guide the product's blueprints.

With the product mapped out a framework, the UI designer steps in to bring it to life. The UI designer considers all the user's journey's visual aspects.

Hopefully, you're now starting to see how UX and UI design means two different things. To summarize:

- UX design is the process of identifying user problems and proffering solutions to the problems encountered by users, while UI design is all about creating spontaneous, graphically-pleasing interactive interfaces.

- UX design normally comes first in the product development stages, followed by UI. The UX designer organizes the user journey framework; the UI designer then designs it with visual and interactive instruments.
- UX can apply to any products or services; UI is specific to digital products and services.

Some Misconceptions: UX design vs. UI design

Although UI and UX have had many misconceptions over the years, it is very important to know that they are both relevant terms. Though they work side-by-side, they are different. While UI emphasizes your design interface and how a user interacts with it, UX focuses on users' experience as they use a product or service. We can then say that UI is a subset of UX design. However, they both represent the screw and bolts of design, communicating its functionality.

UX tools focus on the user and their experience with the use of product content. These tools can help fine-tune the information structure and how someone will flow through the experience. Since this is more conceptual, UX tools help a designer paint a larger picture of how an organization's product w ill affect the user experience.

Conclusion

The term user experience (UX) covers wider broad activities as the UX field continues to evolve. User experience involves the design of a thing for simplicity and ease of accessibility. UX and UI design are very relevant to any business organization; therefore, they must consider users' expectations, desires, goals, satisfaction, and improvement. An organization that fails to consider making the user's experience better is heading for failure. Therefore, user experiences are designed to use a company's product or service in a stress-free way. Designing entails some steps, principles, stages, and procedures, which have been highlighted above.

User Experience is dynamic, not static, successfully associating itself emotionally, physically, and cognitively with the end-user.

UX designers are not responsible for the visual design of a product. Rather, they focus on the user's journey and how it is structured to make this journey easy for a great user experience.

ABOUT THE AUTHOR

Pamala B. Deacon is a UX and UI designer born in New York City, in America. She specializes in design education and career advancement for UX/UI designers that love creating good experiences that work for both businesses and users.

She has experience in visual designing, and mentoring a UX/UI team. She also has extensive experience in UX/UI software and application, including User research, and usability testing.