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MCA503

User Experience Design

Syllabus as per

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Syllabus

1. Introduction to UX Design

What is UX, Ubiquitous interaction, Emerging desire for usability, from usability to user experience, Emotional impact as part of the user experience, User experience needs a business case, Roots of usability.

2. The UX Design - life cycle

Introduction, A UX process lifecycle template, choosing a process instance for your project, the system complexity space, Meet the user interface team, Scope of UX presence within the team, More about UX lifecycles.

3. The UX Design Process – Understand Users

Introduction, the system concept statement, User work activity gathering, look for emotional aspects of work practice, abridged contextual inquiry process, Data-driven vs. model driven inquiry, History., Contextual Analysis, Extracting Interaction Design Requirements, Constructing Design Information Models.

4. The UX Design Process

Information, Architecture and Interaction Design and Prototyping Introduction, Design paradigms, Design thinking, Design perspectives, User personas, Ideation, Sketching, More about phenomenology, Mental Models and Conceptual Design, Wireframe, Prototyping

5. The UX Design Process

UX Evaluation and Improve UX Goals, Metrics and Targets, UX Evaluation Techniques. - Formative vs summative, types of formative and informal summative evaluation methods, types of evaluation data, some data collection technics, variations in formative evaluation results, informal summative dada analysis, formative data analysis, feedback to process, evaluation report

6. UX methods for Agile Development

Introduction, Basics of agile SE method, drawbacks of agile SE method from the UX perspective, a synthesized approach to integrate UX

Unit 1

Introduction to UX Design

What is UX, Ubiquitous interaction, Emerging desire for usability, from usability to user experience, Emotional impact as part of the user experience, User experience needs a business case, Roots of usability.

What is UX ? Give examples of Ubiquitous interaction?

- **User experience** is the totality of the effect or effects felt by a user as a result of interaction with, and the usage context of, a system, device, or product, including the influence of usability, usefulness, and emotional impact during interaction, and savoring the memory after interaction.
- "Interaction with" is broad and embraces seeing, touching, and thinking about the system or product, including admiring it and its presentation before any physical interaction.
- **Usability** is the pragmatic component of user experience, including effectiveness, efficiency, productivity, ease-of-use, learnability, retainability, and the pragmatic aspects of user satisfaction.
- **Usefulness** is the component of user experience to which system functionality gives the ability to use the system or product to- accomplish the goals of- work (or play).
- **Functionality** is power to do work (or play) seated in the non-user- nterface computational features and capabilities.
- **Emotional impact** is the affective component of user experience that influences user feelings. Emotional impact includes such effects as pleasure, fun, joy of use, aesthetics, desirability, pleasure, novelty, originality, sensations, coolness, engagement, novelty, and appeal and can involve deeper emotional factors such as self- expression, self- identity, a feeling of contribution to the world, and pride of ownership.
- That said, computing has now gone well beyond desktop and laptop computers, well beyond graphical user interfaces and the Web; computing has become far more ubiquitous
- Example:
  - For example, robots in more specialized applications than just housecleaning or babysitting are gaining in numbers.
  - There are robotic applications for healthcare rehabilitation, including systems to encourage severely disabled children to interact with their environment robotic products to assist the elderly

Emerging desire for usability

- In the distant past, computer usage was understood by only a small number of people with a specialized knowledge or interest.

- Poor usability was good for the mystique, not to mention job security.
- Poor designs can indeed look so bad to users that they are forced to assume they could not be that bad unless it was deliberate, and that is only half the story when you consider designs that look beautiful but are totally unusable.
- In contrast, we want to use technology to learn things, to be entertained, to connect with others, and to do good in the world.
- In technology now, people look beyond sheer functionality or even usability to beauty, emotional satisfaction, meaning in what they do, and for intellectual gratification.
- To many, one of the most significant motivations for the field of user experience is a concern about software product quality. Unfortunately, the software industry does little to dispel concerns about quality.

From usability to user experience

- **The Traditional Concept of Usability**
  - Human–computer interaction is what happens when a human user and a computer system, in the broadest sense, get together to accomplish something.
  - Usability is that aspect of ensuring that human–computer interaction is, among other things, effective, efficient, and satisfying for user. So usability 1 includes characteristics such as ease of use, productivity, efficiency, effectiveness, learnability, retain ability, and user satisfaction
- **Misconceptions about Usability**
  - Usability is not equivalent to being "user-friendly." This is a is directed term; to say that it is about friendliness trivializes the scope of the interaction design process we need an efficient, effective, safe, and maybe aesthetic and fun tool that helps us reach our goals.
  - Finally, another popular misconception about usability has to do with visual appeal.
- **Is Not Emotional Impact What We Have Been Calling User Satisfaction?**
  - Some say the emphasis on these emotional factors is nothing new after all, user satisfaction, a traditional subjective measure of usability, has always been a part of the concept of traditional usability shared by most people.
  - Also, user satisfaction questionnaires are about how users feel, or at least about their opinions.
  - We as a profession did not focus on those aspects as much as we did on objective user performance measures such as efficiency and error counts.
- **Functionality Is Important, but a Quality User Experience Can Be Even More So**

- All other things being equal, a product that affords a better user experience often outsells ones with even more functionality.
- For example, take the Blackberry; once a market leader in smartphones but now outclassed by the iPhone, a later entrant into the market with less functional capabilities.

- **A Good User Experience Does Not Necessarily Mean High-Tech or "Cool"**
  - Often when a new cool and high-tech product is announced, technology enthusiasts and the public alike are impressed and many equate this product sizzle with amazing user experience.
- **Design beyond Just Technology**
  - Design is about creating artifacts to satisfy a usage need in a language that can facilitate a dialog between the creator of the artifact and the user. That artifact can be anything from a computer system to an everyday object such as a door knob.
- **Components of a User Experience**
  - effects experienced due to usability factors
  - effects experienced due to usefulness factors
  - effects experienced due to emotional impact factors
- **User Experience Is (Mostly) Felt Internally by the User**
  - Most in the field will agree that user experience, as the words imply, is the totality of the effect or effects felt (experienced) internally by a user as a result of interaction with, and the usage context of, a system, device, or product.
  - Here, we give the terms "interaction" and "usage" very broad interpretations, as we will explain, including seeing, touching, and thinking about the system
  - But is user experience entirely felt internally by the user? What about the performance-related parts of usability? Certainly the user experiences and feels internally effects of performance-related parts of usability,
  - usability and usefulness are components of user experience
  - user experience is felt internally by the user

User Experience Cannot Be Designed

- A user experience cannot be designed, only experienced. You are not designing or engineering or developing good usability or designing or engineering or developing a good user experience.
- There is no usability or user experience inside the design; they are relative to the user. Usability occurs within, or is revealed within, he context of a particular usage by a particular user.

- The same design but used in a different context—different usage and/or a different user—could lead to a different user experience, including a different level of, or kind of, usability.

Explain in brief the emotional impact of user experience?

- The emotional aspects of user experience are just what the term implies. We are talking about pleasure, fun, aesthetics, novelty, originality, sensations, and experiential features he affective parts of interaction.
- Sometimes a user's reaction to a system or product is extremely emotional, a user experience with a deep, intimate, and personal emotional impact. At other times a user might be mildly satisfied (or dissatisfied) or just a bit pleased.
- Often just being well satisfied without it rising to a personally emotional level is all a user can afford in terms of emotional involvement with a software system.
- But, of course, we all live for the moments when the user experience hits the high end of emotional impact range when we experience amazingly cool products (software systems almost never reach these heights).
- We are talking about a product for which the user experience sets the product apart from the rest in the hearts and minds of discriminating users.
- Have you ever had something that you really loved to use? Something that had a beauty earned by its amazingly beautiful design? While other similar products may have an equally usable and useful design, they just do not have that something extra that sparks a deep emotional chord ofaffinity.
- The others do not have that indefinable something that transcends form, function, usability, and usefulness, something that elevates the usage experience to pure joy and pleasure, something akin to the appreciation of well-crafted music or art.
- So what constitutes real emotional impact in usage? While most of the emotional impact factors are about pleasure, they can be about other kinds of feelings too, including affective qualities such as love, hate, fear, mourning, and reminiscing over shared memories.

USER EXPERIENCE NEEDS A BUSINESS CASE

- "It might not be easy to use right off, but with training and practice, it will be a very intuitive design." Sounds silly and perverse, but that is what many people are really saying when they suggest training as a way to fix usability problems.
- Unfortunately, the following real-world example is representative of many.
  - A very large governmental organization serving the public sometimes attempts to solve user experience problems by "instructional bulletins" sent to all field users.
  - These are real user experience problems that increase the time to do tasks, introduce significant opportunities for errors, and require users to remember these special-case instructions for each particular situation.

- In one such case, the relevant situation arises when an applicant, a client outside the organization, calls in on an 800 phone number.
- The call is answered by an agent working for the organization, the actual system user, acting as an information intermediary for the client/applicant. If the applicant requests certain information, to which access is not allowed, the request is denied and policy based on law requires that an explanatory written notice be sent via regular mail.
- This kind of interaction are used to make a record of the request and the information denial decision, and to automatically generate and send out the notice.
- The opportunities for errors are abundant and the applicant will not receive the legally required notice if the user, the agent using the computer, fails to follow these instructions to the letter.
- Training as a substitute for usability is an ongoing per-user cost that often fails to meet the goals of increased productivity and reduced risk, errors, and cost.
- The question that sticks in our minds is how could someone send out this memo with a straight face? How could the memo author not see the folly of the whole situation? Perhaps that person had been part of the bureaucracy and the system for so long that he or she truly believed it had to be that way because "this is how we have always done it."

ROOTS OF USABILITY

It is a matter of debate exactly when computer usability was born.
Human computer interaction in general and usability in particular owe much of their origin and development to influences from many other related fields.

Human Factors and Industrial and Systems Engineering

Human–computer interaction is clearly about human behavior and is used to drive system design, and human performance is the measurable outcome in using those systems.
We agree with all but the conclusion that the human is the most likely cause of errors or system failure; the whole point of human factors engineering is to design the system to take into account the susceptibility of the human for errors and to design the system to prevent them.
It is said that human factors got its start with aircraft cockpit design in World War II. The idea of task analysis was first used by human factors specialists in analyzing factory workers' actions on an assembly line.