Module 1

- **Textbooks:**

1 Interaction Design, Beyond Human Computer Interaction, Rogers, Sharp, Preece Wiley India Pvt Ltd.

2 The essentials of Interaction Design, Alan Cooper, Robert Reimann, David Cronin

3 Designing The user Interface by Shneiderman, Plaisant, Cohen, Jacobs Pearson

- **References:**

1 The Elements of User Experience by Jesse James Garrett

2 Don't make me think, by Steve Krug

3 Observing the User Experience: A Practitioner's Guide to User Research by Mike Kuniavsky

Introduction to interface design

- What is UI design?

Ex: if you are using an app on your smartphone to book fights.

The screen you navigate, the button you use and the form which fill out are all part of user interface.

- Important Elements:

1. Input controls
2. Navigational Elements
3. Informational Elements
4. Containers

- Types of user Interface

1.Graphical User Interface

Ex: user interacting with computer via input devices.

2.Form base Interface

Ex: Entering the data into program or application

3. Touch user Interface

Ex: Smart phones , tablets

4. Menu driven Interface

- A frame work for analyzing the problem space:

1. Is there any problem with previous product

2. Why do you think there are problems.

3. Whydo you think your proposed ideas might be useful

4. How will it support people in their activities

Understanding and conceptualizing Interface

- How to design the physical interface and what interaction styles to use.

- For example, consider the problem of providing drivers with better navigation and traffic information. In particular, images of places and directions to follow could be projected inside the car, on the dashboard or rear-view mirror. However, there is a major problem with this proposal: it is likely to be very unsafe. It could easily distract drivers.

- It is better to make the design decisions after understanding the nature of the problem space.

Conceptual Model

- To develop a conceptual model involves envisioning the proposed product, based on the users' needs and other requirements identified.

- The process of fleshing out conceptual models should be done iteratively, using **a** number of methods. These include sketching out ideas, storyboarding, describing possible scenarios, and prototyping aspects of the proposed behavior of the system.

- **Conceptual models based on activities**

- The most common types of activities that users are likely to be engaged in when interacting with systems are:

1. instructing

2. conversing

3. manipulating and navigating

4. exploring and browsing

Understanding User's conceptual cognition

- Cognition is what goes on in your head when we carryout everyday activities. Which involves cognitive process like thinking, remembering, day dreaming.

- Two general modes: experiential and reflective cognition.

- In experimental modes: we perceive, act, and react to events around us effectively and effortlessly.

- It requires reaching a certain level of expertise and engagement.

- Examples include driving a car, reading a book, having a conversation, and playing a video game.

- In reflective cognition: involves thinking, comparing, and decision-making.

- This kind of cognition is what leads to new ideas and creativity.

- Examples include designing, learning, and writing a book.

Cognition has also been described in terms of specific kinds of processes as follows:

- attention

- perception and recognition

- memory

- learning

- reading, speaking, and listening

- problem solving, planning, reasoning, decision making

1.Attention is the process of selecting things to concentrate on, at a point in time, from the range of possibilities available. Attention involves our auditory and or visual senses.

- An example of attention involving the visual senses is scanning the football results in a newspaper to attend to information about how our team has done. Attention allows us to focus on information that is relevant to what we are doing.

- The extent to which this process is easy or difficult depends on

(i) whether we have clear goals

(ii) whether the information we need is salient in the environment

(i) Our goals If we know exactly what we want to find out, we try to match this with the information that is available. For example, if we have just landed at an airport after a long flight and want to find out who had won the World Cup, we might scan the headlines at the newspaper stand, check the web, call a friend, or ask someone in the street.

(ii) **Information presentation** The way information is displayed can also greatly influence how easy or difficult it is to attend to appropriate pieces of information.

2.Perception:

How information is acquired from the environment via different sense organs ex: eyes,ears,fingers and transformed into experiences of objects, events, sound track.

Vision is the most dominant sense for sighted individuals followed by hearing and touching.

3. Memory:

Involves recalling various kinds of knowledge that allow us to act appropriately.

User has to recognize a name of a site when scanning through a list of URLs.

4. Learning:

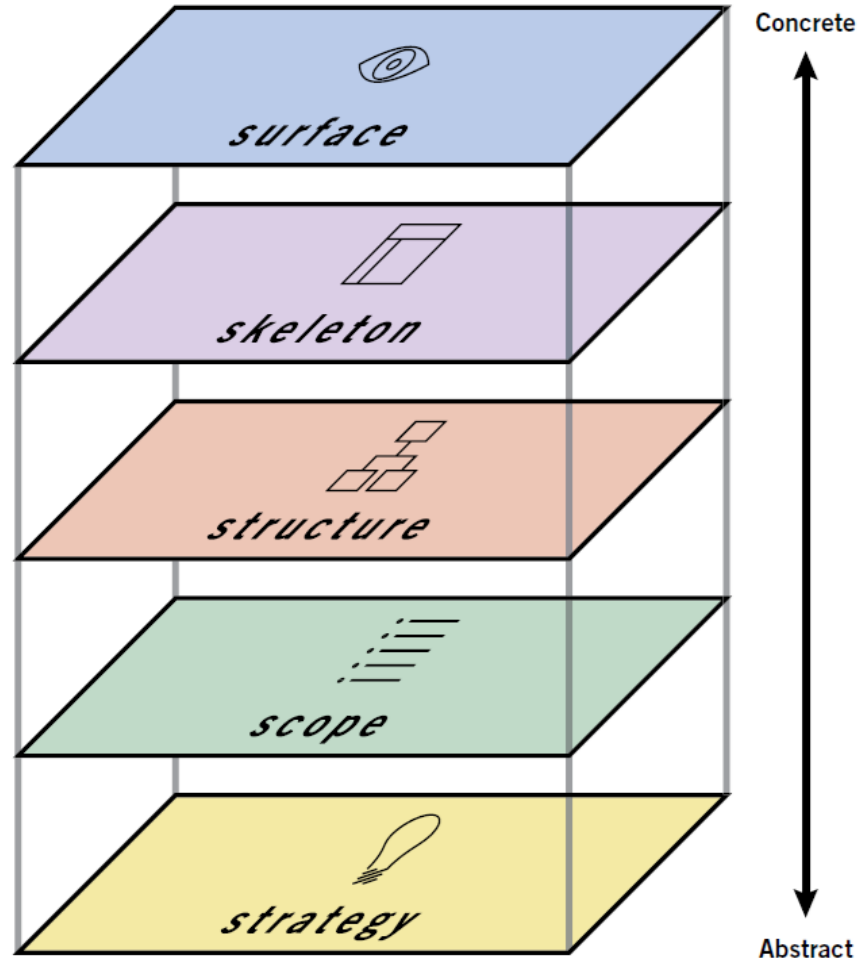Learning can be considered in terms of :

i.   how to use computer based application

ii. Using a computer based application to understand a given topic
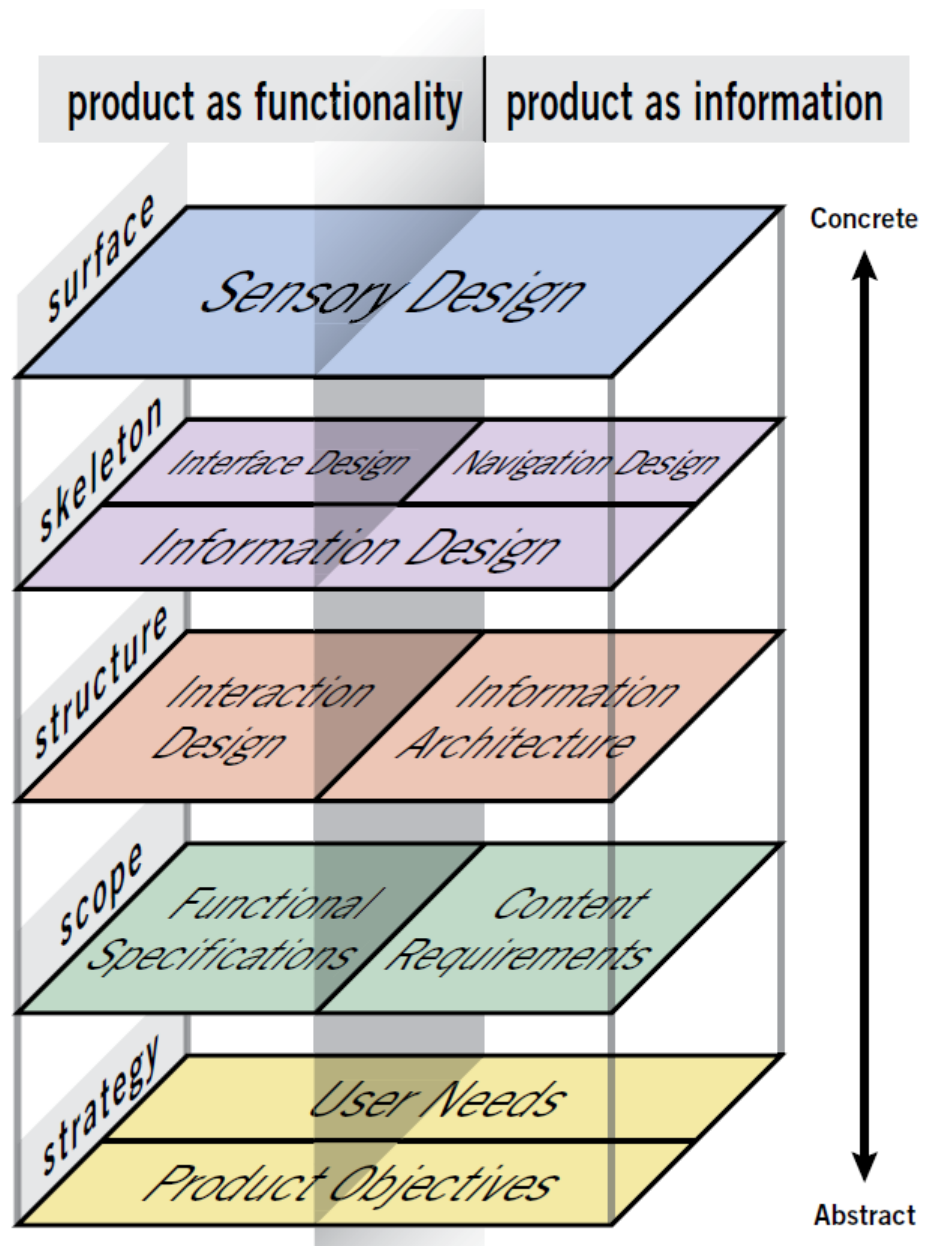
5. Reading, speaking and listening

For ex: Interactive books, web based material help to read or read foreign language.

Speech recognition systems that allows us to provide instruction via spoken command.

Core Elements of User Experience

product as functionality | product as information

Concrete

surface — Sensory Design

skeleton — Interface Design | Navigation Design

Information Design

structure — Interaction Design | Information Architecture

scope — Functional Specifications | Content Requirements

strategy — User Needs

Product Objectives

Abstract

- **The Strategy Plane**
- The scope is fundamentally determined by the **strategy** of the site. This strategy incorporates not only what the people running the site want to get out of it but what the users want to get out of the site as well. In the case of our store example, some of the strategic objectives are pretty obvious: Users want to buy products, and we want to sell them.
- Other objectives—such as the role that advertising or content produced by our users plays in our business model, for example—might not be so easy to articulate.
- User Needs(**User Segmentation, Market research methods,personas**), Product objectives(**Brand Identity, Success Metrics**)

- **The Scope Plane**

- The structure defines the way in which the various features and functions of the site fit together. Just what those features and functions are constitutes the **scope** of the site.

- The product is valuable because it gives the entire team a reference point for all the work to be done throughout the project and a common language for talking about that work.

- Functional specification, Content Requirements

- **So You Know What You're Building?**

- For example, some commerce sites offer a feature that enables users to save previously used shipping addresses so they can be used again. Whether that feature—or any feature—is included on a site is a question of scope.

- **The Structure Plane**
- The skeleton is a concrete expression of the more abstract **structure** of the site.
- The structure would define how users got to that page and where they could go when they were finished there.
- **Interaction design** concerns the options involved in performing and completing tasks. (**Error Handling**)
- **Information architecture** deals with the options involved in conveying information to a user.(top to down and bottom to up approach)
- The skeleton might define the arrangement of navigational elements allowing the users to browse categories of products; the structure would define what those categories were.

- **The Skeleton Plane**

- Beneath that surface is the **skeleton** of the site: the placement of buttons, controls, photos, and blocks of text.

- The skeleton is designed to optimize the arrangement of these elements for maximum effect and efficiency—so that you remember the logo and can find that shopping cart button when you need it.

- **The Surface Plane**

- On the **surface** you see a series of Web pages, made up of images and text. Some of these images are things you can click on, performing some sort of function such as taking you to a shopping cart.

- Some of these images are just illustrations, such as a photograph of a product for sale or the logo of the site itself.

Working of UX elements

- **Content**.
- **Technology**