UNIT – 5

Unit IV:

User Interface Design: The Golden Rules, User Interface Analysis and Design, Interface Analysis, Interface Design Steps, WebApp Interface Design, Design Evaluation.

WebApp Design: WebApp Design Quality, Design Goal, A Design Pyramid for WebApps, WebApp Interface Design, Aesthetic Design, Content Design, Architecture Design, Navigation Design, Component-Level Design, Object-Oriented Hypermedia Design Method(OOHDM).

4.1 USER INTERFACE DESIGN

What is it? User interface design creates an effective communication medium between a human and a computer. Following a set of interface design principles, design identifies interface objects and actions and then creates a screen layout that forms the basis for a user interface prototype.

Who does it? A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.

Why is it important? If software is difficult to use, if it forces you into mistakes, or if it frustrates your efforts to accomplish your goals, you won't like it, regardless of the computational power it exhibits, the content it delivers, or the functionality it offers. The interface has to be right because it molds a user's perception of the software.

What are the steps? User interface design begins with the identification of user, task, and environmental requirements. Once user tasks have been identified, user scenarios are created and analyzed to define a set of interface objects and actions. These form the basis for the creation of screen layout that depicts graphical design and placement of icons, definition of descriptive screen text, specification and titling for windows, and specification of major and minor menu items. Tools are used to prototype and ultimately implement the design model, and the result is evaluated for quality.

What is the work product? User scenarios are created and screen layouts are generated. An interface prototype is developed and modified in an iterative fashion.

How do I ensure that I've done it right? An interface prototype is "test driven" by the users, and feedback from the test drive is used for the next iterative modification of the prototype.

THE GOLDEN RULES

4.1.1 Place the User in Control:

Define interaction modes in a way that does not force a user into unnecessary or undesired actions.

Provide for flexible interaction.

Allow user interaction to be interruptible and undoable.

Streamline interaction as skill levels advance and allow the interaction to be customized.

Hide technical internals from the casual user.

Design for direct interaction with objects that appear on the screen

quality is truly embedded. The appropriate mix of design skills will vary depending upon the nature of the WebApp. Figure 13.2 depicts a design pyramid for WebApps. Each level of the pyramid represents a design action.

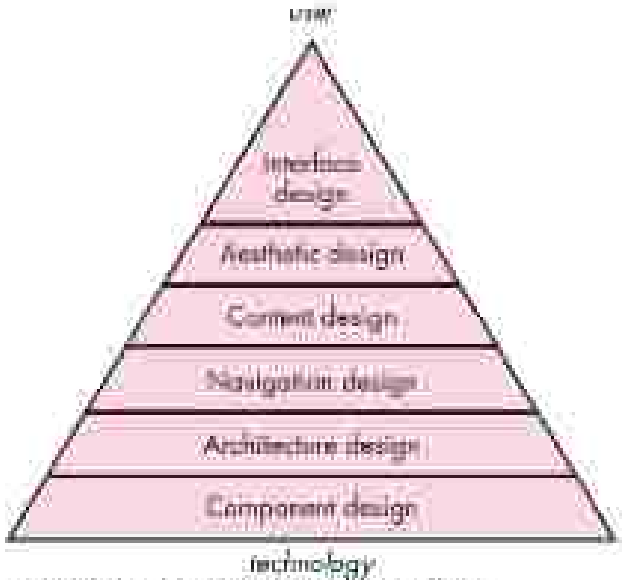

Fig 13.2: A design pyramid for WebApps

4.7.4 Webapp Interface Design: One of the challenges of interface design for WebApps is the s entry point. The objectives of a WebApp interface are to: (1) establish a consistent window into the content and functionality provided by the interface, (2) guide the user through a series of interactions with the WebApp, and (3) organize the navigation options and content available to the user. To achieve a consistent interface, you should first use aesthetic design to establish a coherent This encompasses many characteristics, but must emphasize the layout and form of navigation mechanisms. To guide user interaction, you may draw on an appropriate metaphor5 that enables the user to gain an intuitive understanding of the interface. To implement navigation options, you can select from one of a number of interaction mechanisms:

Navigation menus keyword menus (organized vertically or horizontally) that list key content and/or functionality. These menus may be implemented so that the user can choose from a hierarchy of sublopics that is displayed when the primary menu option is selected.

Graphic icons button, switches, and similar graphical images that enable the user to select some property or specify a decision.

Graphic images some graphical representation that is selectable by the user and implements a link to a content object or WebApp functionality.

cases, state charts, and sequence diagrams—all representations that assist you in better understanding navigational requirements. In addition, design patterns for navigational design may be used as the design is developed. OOHDM uses a predefined set of navigation classes—nodes, links, anchors, and access structures.

Access structures are more elaborate and include mechanisms such as a WebApp index, a site map, or a guided tour.

4.12.3 Abstract Interface Design and Implementation: The abstract interface design action specifies the interface objects that the user sees as WebApp interaction occurs. A formal model of interface objects, called an abstract data view (ADV), is used to represent the relationship between interface objects and navigation objects, and the behavioral characteristics of interface objects.

The ADV model defines a "static layout" that represents the interface metaphor and includes a representation of navigation objects within the interface and the specification of the interface objects (e.g., menus, buttons, icons) that assist in navigation and interaction. In addition, the ADV model contains a behavioral component that indicates how external events trigger navigation and which interface transformations occur when the user interacts with the application".

The OOHDM implementation activity represents a design iteration that is specific to the environment in which the WebApp will operate.