Welcome Students!!

My paper is Human Computer Interaction

This is for V semester T.Y.B.Sc. Computer Science.

Today we are dealing with the module no. 12 which is Design Rules- principles, standards, guidelines, rules which comes under the unit II: Design – Rules and Techniques

Today we are going to discuss on Design – Rules and Techniques: Design Rules- principles, standards, guidelines, rules

At the end of the module you should able to

- Explain the Design Rules in detail
- Describe the Shneiderman's Eight Golden Rules of Interface Design
- Describe Norman's Seven Principles

Let us start...

# Principles to support usability

The principles we present are first divided into three main categories:

- **Learnability** the ease with which new users can begin effective interaction and achieve maximal performance.
- ✓ Predictability
- ✓ Synthesizability
- ✓ Familiarity
- ✓ Generalizability
- ✓ Consistency
- **Flexibility** the multiplicity of ways in which the user and system exchange information.
- ✓ Dialogue initiative
- ✓ Multithreading
- ✓ Task migratability
- **Robustness** the level of support provided to the user in determining successful achievement and assessment of goals.

- ✓ Observability
- ✓ Recoverability
- ✓ Responsiveness
- ✓ Task Conformance

#### Standards

- Standards for interactive system design are usually set by national or international bodies to ensure compliance with a set of design rules by a large community.
- Standards can apply specifically to either the hardware or the software used to build the interactive system.

#### Underlying theory Standards-

- ✓ For hardware are based on an understanding of physiology or ergonomics/human factors.
- ✓ For software standards are based on theories from psychology or

cognitive science, which are less well formed, still evolving and not very

easy to interpret in the language of software design.

- **Change-** Hardware is more difficult and expensive to change than software, which is usually designed to be very flexible. Consequently, requirements changes for hardware do not occur as frequently as for software.
- **Usability-** The effectiveness, efficiency and satisfaction with which specified users achieve specified goals in particular environments.
- Effectiveness- The accuracy and completeness with which specified users can achieve specified goals in particular environments.
- Efficiency- The resources expended in relation to the accuracy and completeness of goals achieved.
- **Satisfaction-** The comfort and acceptability of the work system to its users and other people affected by its use.

### Guidelines

• A major concern for all of the general guidelines is the subject of dialog styles, which in the context of these guidelines pertains to the means by which the user communicates input to the system, including how the system presents the communication device.

# Rules

# Shneiderman's Eight Golden Rules of Interface Design

- 1. Strive for consistency
- 2. Enable frequent users to use shortcuts
- 3. Offer informative feedback
- 4. Design dialogs to yield closure
- 5. Offer error prevention and simple error handling
- 6. Permit easy reversal of actions
- 7. Support internal locus of control
- 8. Reduce short-term memory load

# Norman's Seven Principles

- 1. Use knowledge in the world & knowledge in the head
- 2. Simplify the structure of task
- 3. Make things visible
- 4. Get the mapping right
- 5. Exploit the power of constraints both natural & artificial
- 6. Design for error
- 7. When all fails, standardize

### References

1. Alan Dix, Janet Finlay, Gregory Abowd, Russell Beale; Human Computer Interaction; Pearson Education, 2004 (UNIT I,II and III), 3rd Edition.

2. Brian Fling; Mobile Design and Development , OReilly Media Inc., 2009 (UNIT -IV)

3. Bill Scott and Theresa Neil ; Designing Web Interfaces; OReilly, 2009 (UNIT V), First Edition

THANK YOU