❖ User Interface Design: The golden rules

The following are the golden rules stated by Theo Mandel that must be followed during the design of the interface.

Place the user in control:

- Define the interaction modes in such a way that does not force the user into unnecessary or undesired actions: The user should be able to easily enter and exit the mode with little or no effort.
- Provide for flexible interaction: Different people will use different interaction mechanisms, some might use keyboard commands, some might use mouse, some might use touch screen, etc., Hence all interaction mechanisms should be provided.
- Allow user interaction to be interruptible and undoable: When a user is doing a sequence of actions the user must be able to interrupt the sequence to do some other work without losing the work that had been done. The user should also be able to do undo operation.
- Streamline interaction as skill level advances and allow the interaction to be customized: Advanced or highly skilled users should be provided a chance to customize the interface as the user wants, which allows different interaction mechanisms so that the user doesn't feel bored while using the same interaction mechanism.
- Hide technical internals from casual users: The user should not be aware of the internal technical details of the system. He should interact with the interface just to do his work.

- Design for direct interaction with objects that appear on-screen: The user should be able to use the objects and manipulate the objects that are present on the screen to perform a necessary task. By this, the user feels easy to control over the screen.

Reduce the User's Memory Load

- Reduce demand on short-term memory: When users are involved in some complex tasks the demand on short-term memory is significant. So the interface should be designed in such a way to reduce the remembering of previously done actions, given inputs and results.
- Establish meaningful defaults: Always an initial set of defaults should be provided to the average user, if a user needs to add some new features then he should be able to add the required features.
- Define shortcuts that are intuitive: Mnemonics should be used by the user. Mnemonics means the keyboard shortcuts to do some action on the screen.
- The visual layout of the interface should be based on a real-world metaphor: Anything you represent on a screen if it is a metaphor for a real-world entity then users would easily understand.
- Disclose information in a progressive fashion: The interface should be organized hierarchically i.e., on the main screen the information about the task, an object or some behavior should be presented first at a high level of abstraction. More detail should be presented after the user indicates interest with a mouse pick.

Make the Interface Consistent

- Allow the user to put the current task into a meaningful context: Many interfaces have dozens of screens. So it is important to provide indicators consistently so

that the user knows about the work. The user should also know from which page has navigated to the current page and from the current page where it can navigate.

- Maintain consistency across a family of applications: in The development of some set of applications all should follow and implement the same design rules so that consistency is maintained among applications.
- If past interactive models have created user expectations do not make changes unless there is a compelling reason.