

**Terna Engineering College**  
**Computer Engineering Department**

Program: Sem VIII

**Course: Human Machine Interaction (HMI)**

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**LAB Manual**

**Experiment No.08**

**A.1 Aim:**

Design a theme based Icon for the selected Application.

**A.2 Prerequisite:**

1. Knowledge about Icons and Images.
2. Knowledge of user interface and importance of Icons in Human Recognition

**A.3 Outcome:**

**After successful completion of this experiment students will be able to**

1. To apply HMI principles and guidelines in designing effective User Interfaces.
2. To design Interactive user interfaces for any specific Application

**A.4 Theory:**

- **Icons**

- Icons are most often used to represent objects and actions with which users can interact with or that they can manipulate.
- These types of icons may stand alone on a desktop or in a window, or be grouped together in a toolbar.
- A secondary use of an icon is to reinforce important information, a warning icon in a dialog message box, for example.
- Icon is a small picture that represents an object or program.
- Icons are very useful in applications that use windows, because with the click of a mouse button you can shrink an entire window into a small icon. (This is sometimes called minimizing.) To redisplay the window, you merely move the pointer to the icon and click (or double click) a mouse button. (This is sometimes called restoring or maximizing) Icons are a principal feature of graphical user interfaces. Computer icons, in

conjunction with computer windows, menus and a pointing device, form the graphical user interface (GUI) of the computer system, and enable the user to easily and intuitively navigate the system.

- **Icon: Something that looks like what it means. OR Something that looks like what it means.**

- **Types of icons:**

**Resemblance icon** —an image that looks like what it means. book, for example

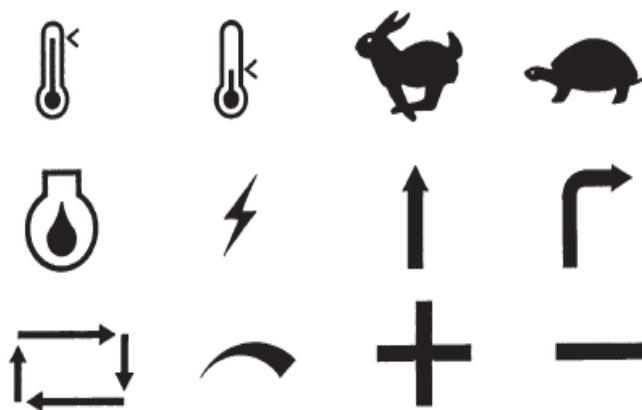
- **Analogy icon** —an image physically or semantically associated with something.







**A symbolic icon:** is an abstract image that represents something. A cracked glass, for example.

**Exemplar icon:** represents an example or characteristic of something. A sign at a freeway exit picturing a knife and fork has come to indicate a restaurant.

**An arbitrary icon:** is not directly related in any way and must be learned. An image completely arbitrary in appearance whose meaning must be learned.

- **Some Common Icons:**



|             | Concrete/Familiar   | Abstract/Unfamiliar   |
|-------------|---|---|
| File Folder |  |  |
| Book        |  |  |
| Telephone   |  |  |

### A.5 Procedure:

1. Create an picture of size 10X10 pixel
2. Save the file with .ico extension (for Windows)
3. Change the icon of any folder by changing the properties of folder
4. Create different sized icons for display in various modes.

### Example:



cellphone



Home



speaker

|                      |                               |
|----------------------|-------------------------------|
| Roll No.: <b>A43</b> | Name: <b>Shruti N. Rathod</b> |
| Class: <b>BE-A</b>   | Batch: <b>A3</b>              |
| Date of Experiment:  | Date of Submission:           |
| Grade:               |                               |

## **B.1 Steps of Icon Design:**

**Step 1:** I designed an icon for my experiment folder.

**Step 2:** After my design was ready, I saved the image with the .ico extension. Also, I changed the format of the image to bmp image.

**Step 3:** Further, I right clicked on my experiment folder and selected Properties.

**Step 4:** In Properties, I clicked on the Change icon in the Customize tab.

**Step 5:** Finally, I browsed and selected the designed icon and clicked on Apply.

The Icon of the desired folder was changed.

## **B.2 Advantages of Icon:**

- 1) You can communicate more words in a lesser space by using icons.
- 2) Icons easily fit a finger operated user interface and also work well with a mouse cursor.
- 3) It is easier to create a brand recall if you have a distinct icon.
- 4) You break language barriers by using icons. You do not need to worry about the need to translate your icons for international users. However, keep in mind the cultural differences while creating an icon to avoid any confusion or miscommunication.
- 5) Icons enhance your design and are appealing to the eyes

## **B.3 Disadvantages of Icon:**

- 1) When using icons-only, problems arise when you start introducing new features and the illustrations that represent them.
- 2) Many users won't start clicking buttons to find what they need if it isn't immediately obvious.
- 3) The uncertainty of an icon's function puts the user in a state of doubt. It requires them to think about the icon instead of focusing on their task.
- 4) Worst case scenario is the user accidentally clicks on something and the result is undesirable and potentially irreversible.

#### **B.4 Snapshot of Design Icon :**



#### **B.5 Conclusion:**

I have designed a simple, clear and consistent icon which has some context with the name of my folder and can be understood by the user easily.