St. Francis Institute of Technology
Department of Computer Engineering

Academic Year: 2021-2022 **Semester: VIII**
Subject: Human Machine Interaction **Class / Branch / Division: BE/CMPN/A**
Experiment No:- 6
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Aim:- Redesign interfaces of home appliances.

I-OBJECTIVE

- To understand the trouble of interacting with machines.
- Redesign interfaces of home appliances like microwave oven, land-line phone.
- To show the bad design of the home appliances as well as the good design of the home appliances.

II-THEORY

Home Appliance: A home appliance, also referred to as a domestic appliance, an electric appliance or a household appliance is a machine which assists in household functions such as cooking, cleaning and food preservation.

Appliances are divided into three types:

- Small appliances
- Major appliances
- Consumer electronics

Small appliances - A small domestic appliance, also known as a small electric appliance or minor appliance or simply a small appliance, small domestic or small electric, is a portable or semi-portable machine, generally used on table-tops, counter-tops or other platforms, to accomplish a household task.
Examples include microwave ovens, toasters, humidifiers, food processors and coffeemakers.

Major appliances - A major appliance, also known as a large domestic appliance or large electric appliance or simply a large appliance, large domestic, or large electric, is a non-portable or semi-portable machine used for routine housekeeping tasks such as cooking, washing laundry, or food preservation.
Examples include refrigerators, washing machines, air-conditioner, etc

Consumer electronics – Consumer electronics or home electronics are electronic (analog or digital) equipment intended for everyday use, typically in private homes. Consumer electronics includes devices used for entertainment, communications and recreation.
Examples includes TV, mobiles, laptops, etc

A well-designed screen:

i. Reflects the capabilities, needs, and tasks of its users.
ii. Is developed within the physical constraints imposed by the hardware on which it is displayed.
iii. Effectively utilizes the capabilities of its controlling software.
iv. Achieves the business objectives of the system for which it is designed.
v. To make an interface easy and pleasant to use, then, the goal in design

is to:

- Reduce visual work.
- Reduce intellectual work.
- Reduce memory work.
- Reduce motor work.
- Minimize or eliminate any burdens or instructions imposed by technology.

III-PROCEDURE

Design interface for any two of the following:-
microwave ovens, toasters, humidifiers, food processors , coffeemakers, refrigerators, washing machines, air-conditioner

- Draw and show Poor User Interface for microwave oven using any tool.
- Draw and show Good User Interface for microwave oven using any tool.

- Identify various functions/buttons/elements that you require on your home appliance.
- Clearly specify function and label of each button required on the appliance.
- Find operational sequences for carrying out various tasks on your appliance.
- Freeze the list of buttons finally required on your appliance layout.

IV-IMPLEMENTATION

Design interface for any two of the following:-

1)The early bicycle (1878):

The bikes you're probably referring to were called 'ordinary' bicycles and were popularly know as 'Penny Farthings' (because the difference in wheel size looked similar to the size difference between a penny and the tiny farthing coins). They were also called 'high wheelers' for obvious reasons.

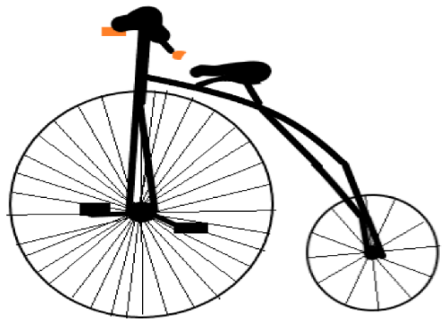

Fig6.1: The early bicycle (1878) also known as PennyFarthings

Early bikes were often driven directly by pedals connected to the front wheel's axle. So

there was no gearing. The circumference of the wheel determined how far you went (and how fast) with each turn of the wheel via the pedals.

Thet had wheels approaching six feet in diameter! Whilst fast, they were incredibly dangerous as, when trying to stop, the rider could easily find themselves thrown from the bike, over the handlebars to land face-first in the road from a great height. The high wheel bikes could get up to around 30mph, so the injuries could often be serious, even fatal.

2)The safety Bicycle:

So, the 'safety' bike was developed. This consisted of a bike with similarly sized wheels. The *rear* wheel was driven via a geared chain and the need to have a very large wheel to go faster was ended. One turn of the pedals might equal two turns of the wheel, doing away with the need for a *massive* driven front wheel.If has gears for good uphill and downhill peddling and suspense for ride on any roads. Soft seats and many other accessories are also available like reflectors, bottle holders etc.

Fig6.1: The whippet safety bike

V-CONCLUSION

We have learned and implemented the good and poor interface for a watering can and a college door.

VI- REFERNCES

https://www.tutorialspoint.com/human_computer_interface/interactive_devices.htm

VII-POST LAB QUESTION-ANSWER

Q1 What constitutes good design?

There's definitely more than one way to explain it, but if I were to describe designers in one term, it would be "problem solvers". Good design is one that fills the gap between business goals and user needs. In order to fill this gap, a process must be followed. A process that takes into consideration best practices of user experience (UX) and usability guidelines to produce the desired outcome.

Good design is one that is tailored for the human use, and not one that is only functional or usable. A good designer knows how to get into the mindset of his users, and turns their needs into a meaningful, desirable, and easy-to-use product or service.