

Assignment No.: 1

1) What is HCI? In details (Imp. factors, Goals, components).

→ ① HCI stands for Human Computer Interaction.

② It is study of interaction between human and computer.

③ The interaction between human & computer is achieved through interface.

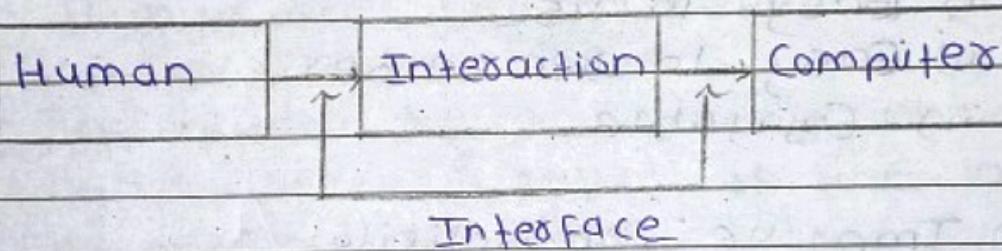


Fig - Human Computer Interaction

④ HCI tries to provide with all understanding of the computer & its user to make the interaction more effective.

* Importance of HCI :-

① HCI is crucial in designing interface that people with different abilities and expertise usually access.

② HCI can affect :- Effectiveness, productivity, safety.

③ To understand the problem, recognize the user's goal, to design product, for setting a vision.

* Goals :-

① The main goal of HCI is usability
a usable system is

- i) Easy to use
- ii) Easy to remember
- iii) Enjoyable.

② Improve productivity

③ Safety, functionality, efficiency

* Components :-

- ① The user
- ② The context
- ③ The interface
- ④ Goal oriented task.

* Factors :-

- ① User interface
- ② Task factors
- ③ System functionality
- ④ Environmental factors.

* Examples :-

- ① Interaction with a mobile app
- ② Using IoT (Internet of Thing)
- ③ Browsing website from desktop computer.

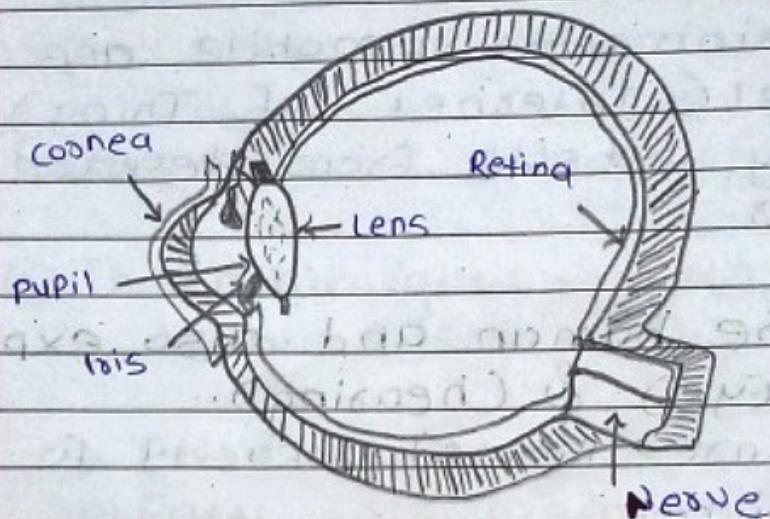
- 2) Explain the human and also explain vision (Eye) & (hearing).
- ① Human are limited capacity to process information.
- ② The human have capacity observation, think, sense & react to the object surrounding to them.
- ③ Every human is distinct & different.
- ④ Information is received & responses given no.of input & output channels.

- ~~i) Vision
ii) Hearing
iii) Touch
iv) movement~~

i) Vision :-

- ① It is primary process of information for the average person.
- ② The human eye a visual channel for input & output responses

③ Vision begins with light



ii) Hearing :-

- ① It is secondary process of the information for average people.
- ② The human hear a auditory never for input & output response.
- ③ Hearing begins with vibration in air.

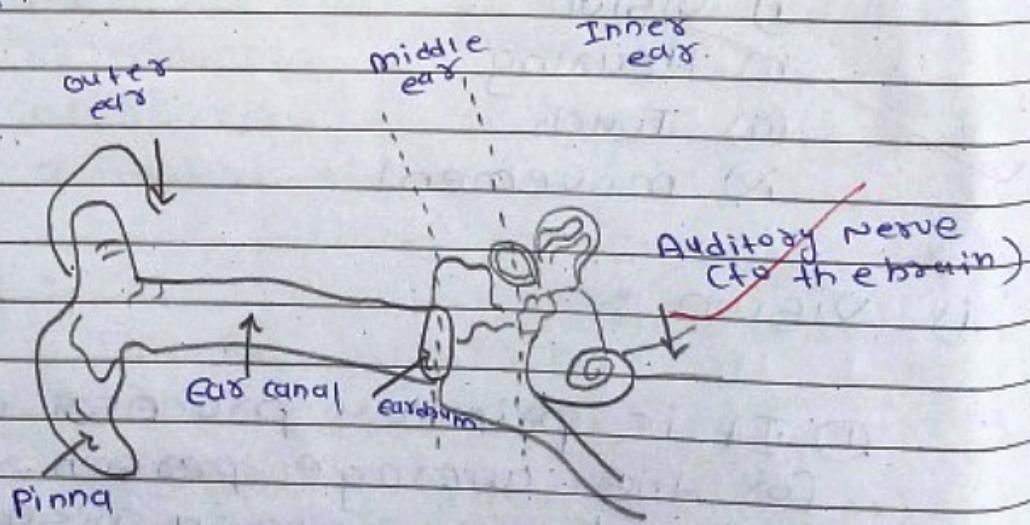


Fig - Human ear

3) Explain human memory in details.

- 2 ① Information is stored in memory
- ② memory like hard disk where store & retrieve information.
- ③ Human memories are -

- i) Sensory memory.
- ii) short term memory.
- iii) long term memory.

i) Sensory Memory :-

- ① It is a storage of information that receive from our sensors.
- ② Our eyes, nose & nerves send that information to the brain.
- ③ There are the 3-types of sensory memory.

i) Ionic :- It is associated with that thing you see.

ii) Echoic :- It is associated with sound and hearing.

iii) Haptic :- It is related to the touch.

ii) Short term memory :-

- ① It is limited
- ② It is very brief
- ③ It is also called as working memory
- ④ Ex :- Complete my degree in good marks.

iii) Long term memory :-

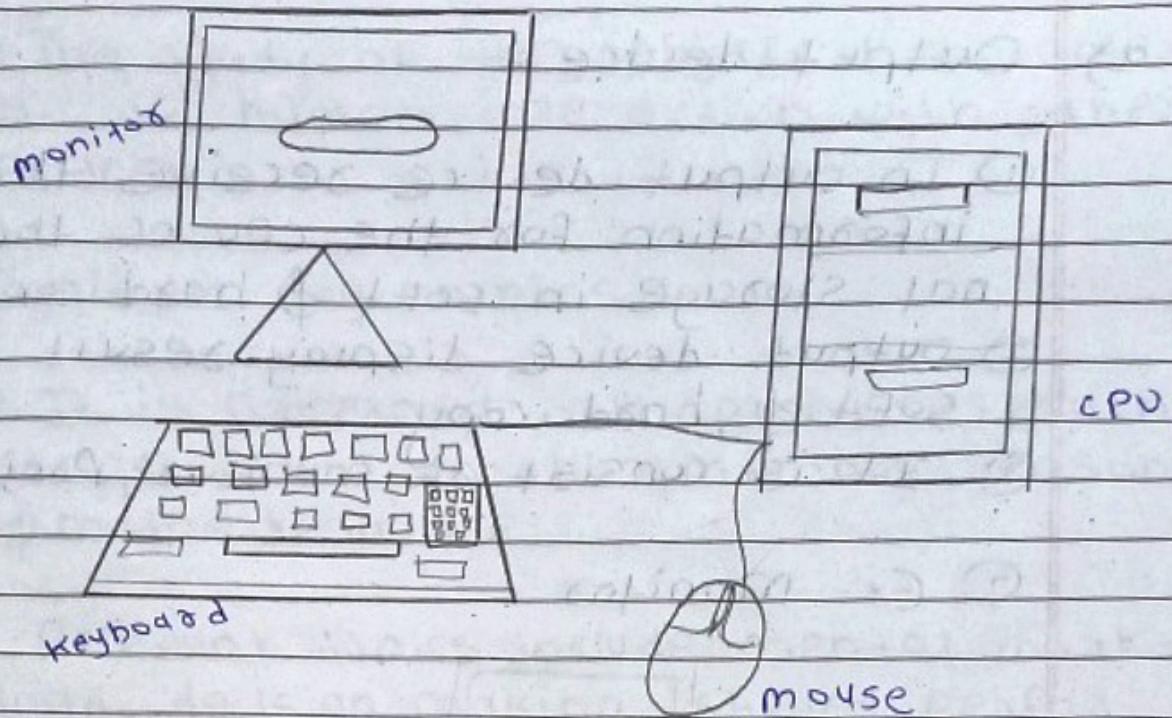
- ① It is unlimited
- ② It is more vital part of the memory
- ③ Ex :- Successful women in the life.

4) Explain the computer & also explain different input devices in details.

- 2 ① A computer is an electronic device that can store, process & retrieves data.
- ② It is a machine that performs tasks & set of interaction given by the user.

③ There are two devices

- i) Input Device
- ii) Output Device



i) Input Device :-

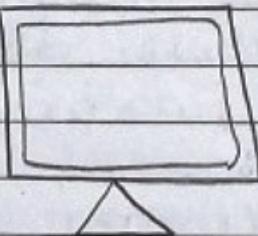
- ① In this device of a part of computer hardware which is used to transport of the data processing system.
- ② The need of input device to send & receive information.
- ③ It is consist of keyboard, mouse, scanner

i) Mouse :-

ii) Scanner :-

2) Output device :-

- ① In output device receive the information from the CPU or the external storage in soft & hard copy.
- ② Output device display result in soft & hard copy.
- ③ It is consist of monitor, projector.
- ④ Ex- Monitor



5) What is interaction & explain disciplines of ergonomic.

- ① The interaction is the communication between the user & the computer.

* Disciplines of ergonomic :- i) physical

- ① It is concerned with human anatomy & some of the anthropometric, physiological & bio mechanical characteristic as they relate to physical activity.

② The study of the physical characteristic of human interaction with other system.

ii) Cognitive Ergonomics :-

① It is concerned with processes, such as perception, emotion, memory, reasoning & motor response.

② Relevant topics include mental workload, decision making, skilled performance.

iii) organizational Ergonomics :-

① It is concerned with the optimization of socio-technical systems, including their organizational structures, policies & processes.

6) Explain Interaction style in detail.

Interaction :-

- ① Interaction can be seen as a dialog between the computer & user.
- ② The choice of interface can have
- ③ There are no. of common interface styles including.

1) Command Line Interface :-

- ① A command line interface is text based user interface used to run programs, manage computer files & interact with the computer.
- ② Command line interfaces are also called command line user interfaces, console user interface & character user interface
- ③ It is flexible.

2) Menus :-

- ① It is set of options displayed on the screen where the selection & execution of one or more of the options results in a state change of the interface.

3) WIMP:-

- ① WIMP stands for Window, Icon, menu, pointer.

- Window : It isolates programs from each other.

- Icons : Act as shortcuts to various program, locations & action possible in the OS.
- Menus : Which can be text-based, icon based, can be used selection system for various tasks.
- pointer : It is represents the location of a device movement.

4) Three-Dimensional Interface :-

- ① Like other types of user interface, it involves two-way communication between users & system.
- ② HCI researches the interface betⁿ people & computers.
- ③ The dialog between user & system is influenced by the style of the interface.

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