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Human Computer Interaction and its types: A types

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Abstract— **Human Computer Interaction means interaction or affiliation with human or people with computer or machine. Human computer interaction also called as computer human interaction or chi. HCI is actually the planning and designing and development of human computer devices, mainly interface of the computer, web page, ATM interface, mobile interface and so on. The main aim of HCI is to improve the interactions between uses and machine or computing interaction. Human computer Interaction also treated design and evaluated and implementation of computer monitor or other user interface. This article deals with the aspect of Human Computer Interaction, its role, modern principle. The paper also tells us about the human device interaction.**

Keywords- Human computer interaction, HCI, Human interaction, Design, usability, usability engineering, Information Science, User friendliness, MMI, CHI.

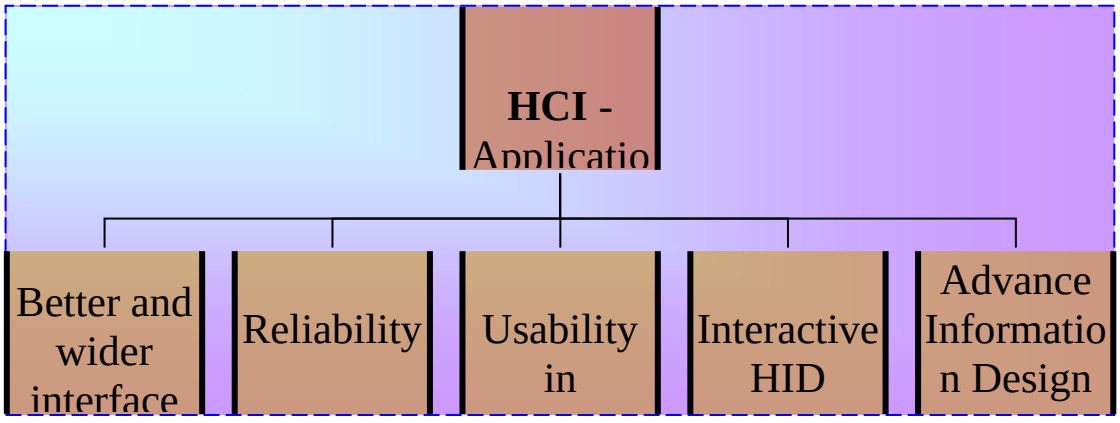
I. INTRODUCTION:-

Human computer interaction is the focuses on users working specially with computers rather than other kind of machines or designed artifacts. HCI is actually human factors of computer. In generally HCI restricted on computer but it can be wider than that. In modern days any kind devices having monitor/ interface may use HCI principles. Mobile, computer, ATM, Laptop, Tablet are using modern HCI for better looking and much more interaction and user friendliness. Here interaction between users and computer occurs at the user interface. Fundamentally HCI is responsible for methodologies and process for designing interfaces methods for implementing interfaces. The ultimate aim of HCI is minimum barrier between the human expectation and computer understanding task.

II. OBJECTIVE:-

The main aim and objective of this study is including as follows:-

- To know about human computer interaction and its contemporary roles;
- To learn about the modern principle of HCI;
- To learn about the human interface design and human computer interaction;
- To find out the current trends of HCI;
- To learn about the related area and field of human computer interaction and usability engineering.



HCI: 1:- The utilization of HCI

III. HCI: THE INTERACTIVE TOOLS-

HCI is the interdisciplinary field incorporated with the computer science, information science and psychology. Fundamentally human computer interaction is responsible for design and development of new user interface with better usability and interactiveness. Human computer interaction also called as man machine interaction now a day; as apart from computer so many machine interactions is actually deals with interface. HCI also consider as the developing descriptive and pre dictive methods and theories of interaction. The professionals in this field basically design and develop website, graphical interfaces interactive. HCI is recently gain popularity in the computing science due to its wider benefit. Modern researcher is in this field designing new design methodologies, experimenting with new hardware device.

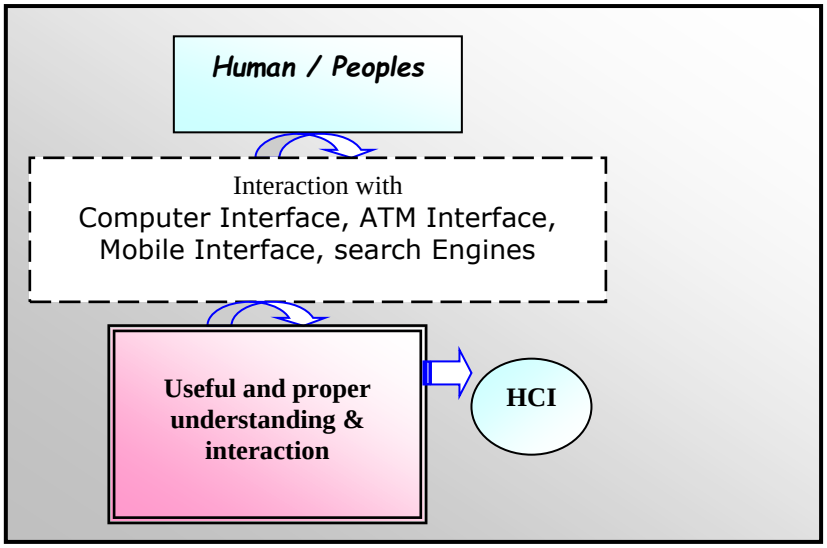


Fig: 2:- The Basic of HCI and related domains

IV. ROLE OF HCI:-

The main aim and objective of Human computer interaction is as follows:-

- For designing better user interface and computer icon (graphical interface);
- To create better usability of interface;
- Methodologies and process for designing interfaces;
- For creating computer and ATM user interface good looking, colored and interactive;
- Methods for implementing interface;
- For faster information use through the better information design based on healthy information architecture;
- Advance, first, reliable interface preparation.

V. HCI AND MODERN PRINCIPLES:-

According to renowned usability and HCI engineering expert it is better to follow these principle for better and sophisticated HCI design.

- Legible Displays:- It is essential that the display legibility should be clear and usable;
- According to Christopher et al. , it is essential that the signal should be clear and usable;
- Top down processing is required it is essential that the signal should be clear and usable;
- It is essential to follow the signal in more than once and in many alternative forms;
- It is essential to remove the simplicity in between the objects or numbers;
- It is essential that the display should look like the variable that it represents;
- If moving of ant part is essential than it is essential to follow the move in a pattern and direction compatible with the users actual expectation or mental model;

- There should be adequate importance in the cost of preparation of interfaces;
- It is essential to chose the objects which are easy to accessible and time effective;
- Divided attention between two information source may be necessary for the completion of one task;
- There should be possibilities of access information across various a sources;
- A menu checklist and similar kind of display may be helpful to the user to number any objects or interface;
- According to Christopher et.al. , principle of predictive aiding allow the user to not only focus on current conditions, but also think about possible future condition;
- A new design or interface should be more or less same or fulfill the consistency for the case of user in future use.

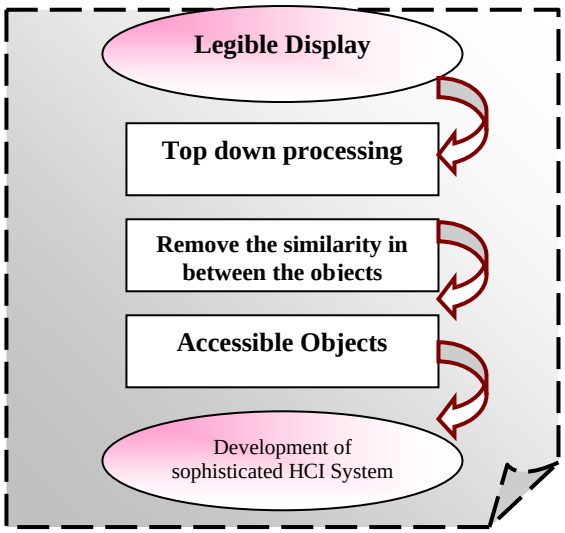


Fig: 3:- The creation of interactive usability

VI. HID AND HCI:-

For the better human computer interaction and machine interface we need healthy and better interaction devices. Both the host and devices needs to be much more cooperative and interactive. The HID protocol makes implementation of devices very simple. It is essential that the host which means computer and other machine should be less complex for the better communication with the devices which including keyboard, mouse, joystick and others.

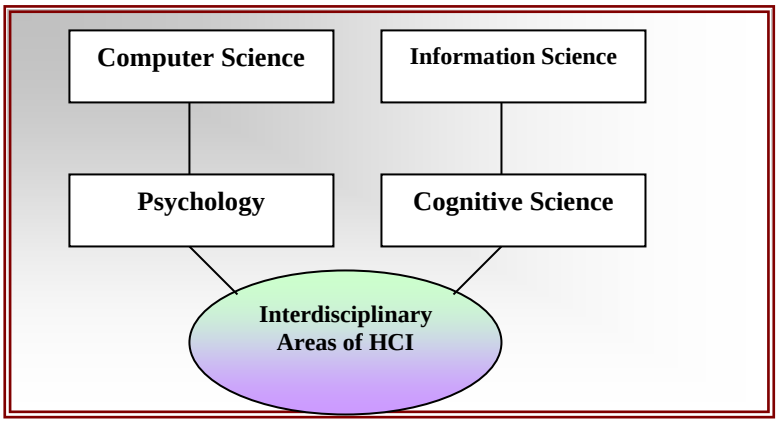


Fig: 4: The related fields of HCI and usability engineering

It is very much essential that the device should be very easy to use and simple because all the communication will be lead by these devices. The host needs to retrieve the HIID descriptor from the device and parse it before it can fully communicate with the device.

The main flow of this is first start by input then output data flows from the host to the device and then to the human.

VII. FINDINGS:-

- Human computer interaction is widely using in almost all the interfaces;
- Mental caliber is important activities of HCI;
- Task environment, machine environment, input flow and feedback are the main characteristics of modern human computer interface design;
- User customization and embedded computing should be followed;
- ATM, mobile interface are the most emerging application field of HCI.

VIII. SUGGESTION:-

- For better and advance HCI there should be relationship with exception and reality;
- For better HCI it is also essential that HID is also be modern;
- The modern interface display should be large and display should support the modern graphics as well;
- There should be implementation of modern HID principle during the design of the Human Computer Interaction;
- During interaction design all 5 dimension of smith of interaction design should be followed- 1D words, 2D visual representation, 3D physical objects, 4D time, 3D behavior.

IX. CONCLUSION:-

Information Retrieval is a system which is responsible for the collection, selection, organization and mostly retrieval of the information. Human computer Interaction or HCI is responsible for better and healthy information storage and retrieval system. Today's most of the advance electronic gadgets are uses interfaces and for that interaction technique or input technique for the better usability, clarity and simplicity. The intension of today's HCI and interaction technique is actually provide or complete interaction in between the computer with the user, even if he/she is not so much habituated with the machine.

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