The Human-Computer Interaction

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Abstract— Human-Computer Interaction is concerned with principles for design of the Human-Computer Interface. In human-computer interaction knowledge of the capabilities and limitations of the human operator is used for the design of systems, software, tasks, tools, environments, and organizations. The purpose is generally to improve productivity while providing a safe, comfortable and satisfying experience for the operator. Human-Computer Interaction, sometimes known as Computer-Human Interaction, is the study of how we interact with computers in an effort to understand the reasoning behind good and bad user experiences so that recommendations can be made for enhancing that experience in terms of efficiency and effectiveness of use and user satisfaction. HCI is to study categories of individual difference that could predict performance and behavioral differences in computer use. Discovering what the users of a computer software system do know and should know are important goals in current research on human-computer interaction.

Keywords: Human-Computer Interaction

I. INTRODUCTION

In the context of HCI, we can imagine that these dispositions could for instance influence the behavior online or influence what a user thinks about (a certain) computer, service or system. We can relate cognitive styles to HCI by imagining that a user's preferred processing mode could influence his or her performance on a computer. In addition, their overall preferences for certain design elements may be explained by their cognitive styles. Human-computer interaction studies the design and use of computer technology, focused on the interfaces between people and computers. Researchers in the field of HCI observe the ways in which humans interact with computers and design technologies that let humans interact with computer in novel ways. Humans interact with computers in many ways the interface between humans and computers is crucial to facilitate this interaction. Desktop applications, internet browsers, handheld computers, ERP and computer kiosks make use of the prevalent graphical user interfaces of today. Voice user interfaces are used for speech recognition and synthesizing systems, and the emerging multi-modal and Graphical user interfaces allow humans to engage with embodied character agents in a way that cannot be achieved with other interfaces paradigms. The growth in human-computer interaction field has been in quality of interaction, and in different branching in its history.

II. WHAT IS HUMAN-COMPUTER INTERACTION?

Human-computer interaction (HCI) designs need to include the essence of emotional intelligence the ability to recognize a user's affective states in order to become more human-like, more effective, and more efficient. It is the interaction between a computer and a human to produce an effective output. The interaction is a two- way process between a user and a computer. e.g. the discovery that the mouse was better than other input devices because of the faster pointer positioning time. Now interactions of humans with computers are increased by increasing the productivity of computer. Before 1980s only few people had the rights to interact with computer. Now technology has integrated, we always connected with small computer which is phone. It made out interaction with technology very easier, now we use touch, speak, listen, face recognition, command user interface(CUI), graphic user interface(GUI) and various type of sensors to interact with computer or phone. Human-computer interaction (HCI) as a field of inquiry necessarily evolves in response to changes in the technological landscape. During the past 15 years, the speed of change has been particularly dramatic, with the emergence of personal mobile devices, agent-based technologies, and pervasive and ubiquitous computing. Social networking has also profoundly changed the way people use technology for work and leisure.

III. FUTURE OF HUMAN-COMPUTER INTERACTION:

These new VR technologies will give rise to so many new and unique interactions, it will truly change the way we design user interfaces and interact with computer systems. Interfaces will no longer be trapped in tiny screens but will instead inhabit our own three dimensional world. In recent years, HCI research based on gaze gestures has emerged and is increasing rapidly. Methodology for Hand Gesture recognition for Human-Computer Interaction in this method, when the user gives a gesture to the system it instantly captures the image of the hand gesture with the help of its camera module. HCI seeks to foster a scientific understanding of the cognitive and social behavior of system users and the organizational and social impacts of that usage. Studies of usage can cover individuals, groups, communities, organizations, and networks, as well as societal impacts of system use.

Voice interaction is going to go way beyond setting appointments and surfing the web. It's predicted that, in the next 5 years, adoption rate of speech recognition will be over 80%. This makes a lot of sense when you consider how much smaller our screens are getting. With less screen real-estate, interfaces will become much harder to navigate.

Eventually we will be able to inject this technology directly into our bodies. This means you'll be able to monitor your most important vital signs without any hardware at all. And just think of all the data. You'll literally have a consistent and accurate record of all of your vital signs thought your life! The benefits to human health alone could be huge.

IV. CONCLUSION:

Human-Computer interaction has become a necessary part of daily life for the majority of around the world. Graphical user interfaces (GUIs) constitute a large part of the software being developed today. Most software today is interactive, and the code related to the user interface (UI) can be more than half of all code. The UI of a computer program is the part that

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handles the output to the display and the input from the person using the program. One of the goals of human-computer interaction (HCI) is the improvement of the user experience, making this interaction similar to human-human communication. Inclusion of speech recognition was one of the key points to include perception to multimedia devices improving their user interfaces but the analysis of affective states would be able to improve HCI making these applications more usable and friendly.

REFERENCES

[1] Wikipdia Available at https://en.wikipedia.org/wiki/Human computer_interaction
[2] J.N. Carroll and J.M. Olson. Mental Models in Human-Computer Interaction
[3] What's The Future Of Human-Computer Interaction (HCI)? BY ERIC BIELLER
[4] R.R. Mackie and C.D. Wylie. Factors Influencing. Acceptance of Computer-Based Innovations.
[5] Jonathan Bishop, "Increasing participation in online communities: A framework for human-computer interaction" in Human Behaviour, Volume 23 Issue 4, July, 2007 Pages 1881-1893.
[6] Haria, A., Subramanian, A., Asokkumar, N., Poddar, S., & Nayak, J. S. (2017). Hand Gesture Recognition for Human-Computer Interaction. Procedia Computer Science, 115, 367–374.

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