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BSCS4A

Human Computer Interaction

I. Define Human Computer Interaction or HCI

1. Human Computer Interaction is a cross-discilinary area (e.g., engineering psychology, ergonomics, design) that deals with the theory, design, implementation, and evaluation of the ways that humans use and interact with computing devices.

II. What are the importance of HCI ?

2. HCI is essential since it will enable items to be more successful, safe, useful, and functional. In the long run, it will make the user's experience more delightful. As a result, having someone with HCI expertise involved in all stages of product or system development is essential. HCI is also required to prevent goods or projects from entirely failing.

HCI is extremely important when designing clear intuitive systems which will be usable for people with a varied range of abilities and expertise, and who have not completed any formal training. HCI takes advantage of our everyday knowledge of the world to make software and devices more understandable and usable for everyone. For example, using a graphic of a miniature folder in a computer's interface helps the user understand the purpose of the folder, as everyone has experience with real paper folders in their everyday lives. Ultimately, if a system is well designed with HCI techniques, the user should not even have to think about the intricacies of how to use the system. Interaction should be clear, intuitive, and natural.

On daily life

 -Today, technology has infiltrated every part of our life. Even if a person does not directly own or use a computer, computing has an impact on their lives. ATM machines, train ticket vending machines, and hot drinks vending machines are just a few examples of computer interfaces that people can interact with on a regular basis without having to own a computer. When creating any of these systems or interfaces, human-computer interaction (HCI) is critical. Whether designing an interface for an ATM or a desktop computer, HCI principles should be examined and taken into account to guarantee that the interface is safe, usable, and efficient.

For Business and Industry

-HCI is a critical factor for any company that relies on technology or computers in its day-to-day operations. Staff are more content and productive when working with well-designed usable systems since they are not frustrated. HCI is particularly crucial in the design of safety-critical systems like those found in power plants and air traffic control centers. In these scenarios, design flaws can have significant consequences, including the death of many individuals.

Accessibility matter

-When creating systems that are not just useful but also accessible to individuals with impairments, human-computer interaction (HCI) is a critical factor to consider. HCI's primary principle is to give everyone with secure, useable, and efficient systems, which includes people with a wide range of abilities and levels of

competence and knowledge. Any system that is built using HCI user-centered methodologies and concepts will be as accessible as possible to people with impairments.

Software Success

-The application of HCI ideas and approaches is critical not just for end users, but also for software development organizations. If a software product is difficult to use and creates annoyance, no one will choose to use it, and sales will suffer as a result.

III. Principles of Human Computer Interaction or HCI

1. Know the user

It is important to know the background, skills and knowledge of the user who's going to use the system. For example we should consider the language use by the user of our application.

2. Understand the Task

It is essential to know the task of the user which is the needs and problems to improve daily task that the user has. With that we can help to improve usability, efficiency, productivity of the task execution.

3. Reduce Memory Load

Consider to minimized the memorization of information to finish certain task by the user in which it lessens the complexity of task.

4. Strive for consistency

Develop a pattern in the application that can help to familiarize when doing the task then as a result it will improve the usability, efficiency and productivity of task doing by user.

5. Remind Users

Always keep the user on track with what they are doing. For example when deleting an item which will be need to highlight or remind what are those items that they are going to delete.

6. Prevent Errors

We need to validate the task done by the user to prevent some errors on their task. For example, validating the password of the user which needs to have confirm password as to know that the user know what they are typing.

7. Naturalness

Make sure to apply natural way of doing certain action. For example, when we are capturing signature it needs to have digital pen that makes the user feel the same way of filling up form in paper. Does it help for the usability, efficiency and productivity of doing task.