

A Review Paper on Student Computer Interaction for Student

Sahit Baral and Gajendra Sharma*

Department of Computer Science & Engineering, Nepal



Abstract

One of the main aims in human-computer interaction research is to develop an ability to recognize affective state of the user. Such a capability is necessary to have a more human-like nature in human-computer interaction. The enhancement in the development of computer technology has led to the idea of human computer interaction. Research examination in human computer interaction involves the young age group of students that are educated and technically knowledgeable. This paper focuses on the mental model in Human Computer Interaction. There are various methods of this review paper and one of them is highlighting current method, results and the trends in the human computer interaction and the second method is to find out the research that have been develop a long time before and are currently lagging behind. This paper also focuses on the emotional intelligence of a student to become more user like, fidelity prototyping. The development and design of an automated system to achieve dependable, usable and well-engineered interactive require more applied computer interaction research and awareness of its issues. To achieve dependable, usable, and well-engineered interactive digital academic supportive devices requires applied human computer interaction research and awareness of its issues.

Keywords: Human computer interaction; Emotional intelligence; Interactivity; Fidelity prototyping

***Corresponding author:** Gajendra Sharma, Department of Computer Science & Engineering, Nepal

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Introduction

The Human computer interaction is the practice and study of usability. It is about the relationship between a human and a computer, their mutual understandings and by creating a software which would ease the work of a human and people would love to use and would be able to use it. It may also be said that it is a study of how humans use computers to perform certain tasks and use it in such a way that the interaction is being enjoyed and effective. As the name suggests, it comprises of three parts namely the user, the computer and their interaction [1]. It involves the sketching of low and high fidelity, i.e., the degree of exactness a thing is being reproduced. The initial step to an intelligent HCI is having the abilities to respond and sense appropriately according to user's affective feedback and detect, interpret the affective states shown by the user instinctually. This paper also focuses on various types of HCI design approaches.

The advent of computers in schools has diversified the types of educational communication. Students still have interpersonal interactions with teachers, but they also have many computer-mediated communications: communications with people through computer (using e-mail, for instance) and communication with the computer itself. The latter has given rise to an important field of study known as Human-Computer Interaction (HCI) [2].

Students

The HCI product is produced and used by the students which are the students of the product. For understanding students as an information-processing system, how they communicate, characteristics of the user as a processor of information-Memory, attention, problem-solving, learning, motivation, motor skills, conceptual models and diversity. Language, interaction and communication-Aspects of language-Syntax, pragmatics, semantics, conversational interaction and specialized languages. Anthropometric, i.e. the systematic measurement of the physical properties of the human, such as the dimensional descriptors of body size and shape and physiological characteristics of people and their relationship to workplace and the environment around them. The humans are good at performing fuzzy computations (Figure 1).

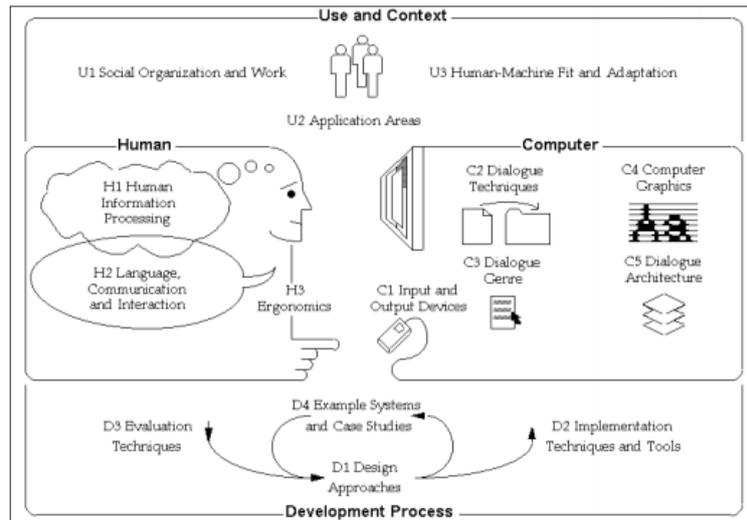


Figure 1: HCI development.

Computers

The computers are used for communications with the students as they have special components that can interact with the students. The computers also provide a platform to student to formulate and interact with the components and provide an effective learning. Computers are good at counting and measuring, precise storage and recall, rapid and reliable responses, data processing or computation, formulations, repetitive actions, and performance over time, "Simple and sharply defined things".

Interaction

The list of skills is somewhat supporting. It is the interaction between a computer and a student to produce an effective output. The interaction is a two-way process between a student and a computer.

HCI Design Process

Ebert's described four student's computer combinations design method that may be applied to the user interface designs to develop user friendly, methodical, and instinctive users experience for the users. One or more approaches can be used in a single user interface design [3].

The four approaches to design a user interface are:

Anthropomorphic method: This approach involves designing human interface such as to produce human like characteristics.

Cognitive method: This method used to develop a student interface that supports the end student and considers the abilities of human brain and sensory recognition.

Empirical method: This method is used for study's and comparing the usability of multi-conceptual designs.

Predictive modelling method: GOMS method is used for examining and takes into consideration, user's experience in terms of time taken by a user to efficiently and effectively complete a

goal. GOMS stands as g stands for goals, o for operators, and m for methods and s for section rules. The definite measurements of student's performance are used to calculate the time taken by it to accomplish a particular objective (Figure 2).

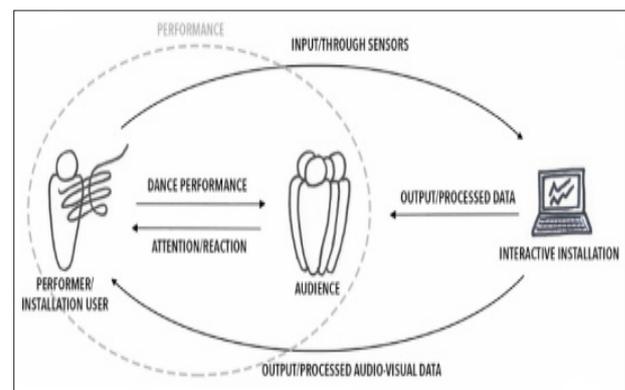


Figure 2: Interaction between human and computer.

Fidelity Prototyping

Fidelity means the degree of accuracy up to which a product is reproduced. Prototyping means making basic models from which the other models are made. It includes

Low fidelity prototyping

It is also known as low-tech prototyping; it is simple and very easy conversion of the product and design concepts. It is used to turn plan/design goal into tangible and testable artefacts, collecting and analyzing student demand at early stage.

High fidelity prototyping

It is highly functional and interactive prototyping which is so close to final product with lots of functionalities and details. It is used in usable evaluation to discover potential issues that may occur during the later workflow, interactivity (Figure 3).

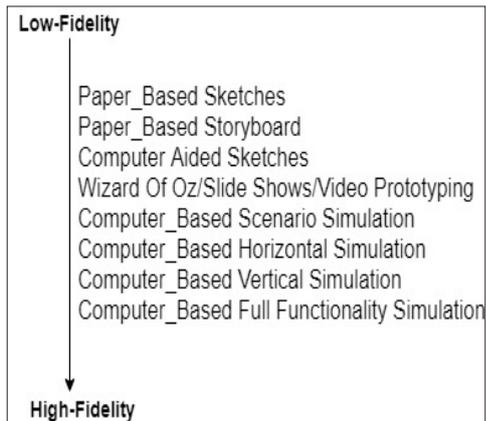


Figure 3: Precedence diagram of HCI.

Participants

The test/examine in HCI commonly prefers the younger group of students as being young, they are practically knowledgeable, highly educated, and are unrepresentative of demographic realities. In the case of the older people in research groups, the collection of the data from these participants require alterations and research methods. Formal education and literacy level are characteristics in which older group of people differ widely from younger group of participants in the research [4].

The Mental Model

The most important concepts of human computer interactions are the Mental Models. These Mental models is what a user believes about the systems in hand and is not based on the facts but beliefs. students base their predictions on the mental model and then perform actions. A mental model is internal to each student's brain. The mental models are in flux, i.e., they are flowing out as they are inserted in brain rather than being fixed in an external medium. The Mixed-up Mental model-These models complicate different parts of

the system; the reason is many users have not formed the model of their screen functions [5]. The development team and the student have different mental model and while creating something for the student the design team has to think according to the student which a very big problem is.

Conclusion

Human Computer Interaction is most likely to become the most global research topic of the AI (Artificial Intelligence) research area. The newly discovery in HCI design could bring radical change in the world. Many aspects of the HCI technology, which are concerned with interpretations of human behavior at deeper level. HCI will bring enormous change in the world. Since the student computer interaction is based on the interaction of the students with the computers, it would be more favored as it is easy to use and is totally reliant on the humans/students and works on the user's instructions. A small work in this field will ease the work of people in the upcoming time.

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