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Psychology Vs Computer Science

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Abstract
This paper presents selected solutions and remarks about mutual relations between psychology and computer science. Actually these two areas are considered different in Education point of view. But, it is proved that Computer Science and Psychology is interrelated. Psychological solution was needed for Computer related problems and vice versa.

Keyword: Psychology, Computer Science

Introduction
Computer Science is a combination of Mathematics and Technology. Similarly, Psychology is a combination of Philosophy and Biology. The relation between these areas of subject is found to be null. Both Computer and Psychology uses same terms in different context. For example, the term Memory is used in Computer for storage of bits and bytes and in Psychology for storing data in

Human brain. The term Memory is used in Computer since the beginning of first generation, which was actually derived from Psychology. Similarly, the term Input is derived from Computer Science. In psychology, Input is used to denote the Action we perform to any system or Human.

Psychology and Computer Science are not only used in Research and Practical application, but it is also used to complement the needs and abilities of each other. When, Psychology is in need, Computer Science offers its abilities to solve it and vice versa.

So, the development of both Psychology and Computer Science can be easier and faster, if both the subjects are observed as a single subject rather than two different subjects. In order to achieve this target, we must think of improving the disadvantages of both areas.

Therefore, in this paper, we try to explain the connection between Computer and Psychology and to find its area of weakness and the alternative methods for both.

Man-Machine Interface
In today's world, Psychology is very much useful to understand the relation between Computer and Human. The strong pressure in present world highly requires the need for a friendly Interface from Computer. The Term Interface is an interaction between user and Computer. It includes the screen

appearance and all those things that a program provides easily to a user. This is where the User-Friendly term originated.
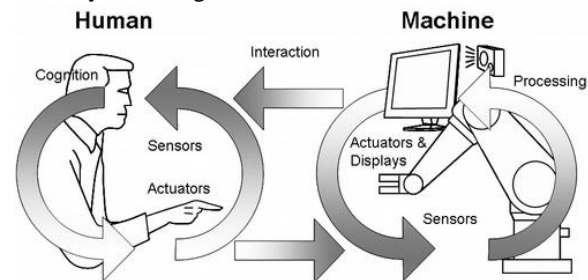
SAP is a Research that took up the program for Human Computer Interaction. It conducts innovative program for finding new access modes and solutions for intercultural issues. For example, For an interaction between artificially generated faces in Computer and Human, we use the term "Social Agents". This technology uses animated heads for that faces along with Social intelligence that can interact with human. This application helps in interacting with new users in a friendly manner. Another example of SAP is that , it has developed VEP, Voice Enabled Portal, that lets you navigate and enter data and text using spoken commands. These are the best example of Human Machine friendly interface.

Psychological Advice For Designers
System Interface designers needs to have some Psychological advice in order to design the system in a user friendly manner. Data visualization is a computer term that can be used only for Encoding information that our eyes can see and our brains can understand. This can be achieved by studying the Human perception. The main aim of data visualization is to translate the information into visual representation that can be easily, efficiently, accurately and meaningfully decoded.

The really professional User Friendly Interface depends on four main factors such as Size, Grouping, Spacing and Positioning, Intuitiveness.

Spacing and Positioning:
Snaplines , Layout Control and TableLayoutPanel are three best tools used for Spacing.

Size:
The maximum width recommended is to be doubled the original width.When you drag a button from the toolbox on to your form, it has the perfect height and width by default.

Grouping:
Tab control uses Function-based or categorized grouping ,which makes all the controls easier to use. Grouping is very much needed for controlling the many controls available in any application.

Intuitiveness:
This is an important aspect for any user experience. Any intuitive interface lessens the need for explanation. The main aspect of Intuitiveness is Color Coding. It should also include Navigation button.

Following can be some of the effective ways to shape the interface:
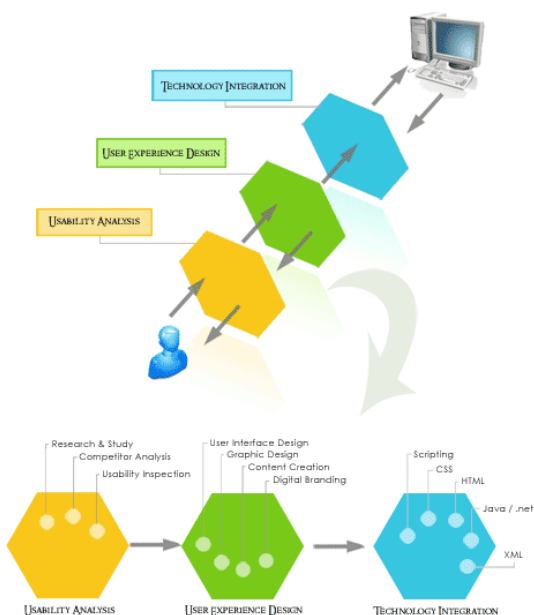
1. Stick to Standards
2. Draw Attention to Important Buttons
3. Simplify Recognition with Icons and Headers
4. Use Custom Message Boxes
5. Include Alternate Commands
6. RadioButtons or Combo Boxes?
7. Never Disrupt the User!
8. Provide Progress Status
9. Use Pretty Graphics
10. Provide Resizable Forms When Possible

11. Provide More Functionality with Sidebars/Task Panes
12. Give a Notification Choice
13. Provide Tooltips and Don't Forget the little things!

Hand Made Data
Data entry is an act of transcribing some form of data into another form of data, usually a computer program. Since the advent of computers, since the beginning of typing, the handmade data are needed. The main need for handmade data is to collect and neatly present the document that has been obtained. Handmade data requires focus and concentration. Maintain a good posture, typing in an ergonomically sound position and taking breaks for the eyes and hands are some of the psychological advice for typist .

Cons of Handmade data
Handmade data can be frustrating for any professional. If job that is done without interest can result in errors and end up to be a Sub-standard work.

"I dunno Jim...Accountancy just doesn't thrill me like it used to."

Following can be done to overcome boredom:
1. Maintain a To-Do list
2. Make friends at workplace
3. Voluntarily accept Non-related jobs for relaxing
4. Go the extra mile
5. Get refreshed periodically
6. Make sure you don't fall into the trap.

Sources of Error in Handmade Data
Data entered should be valid and error-free. Following rules has to be followed:

1.Reject wrong data instead of filtering

2.Perform data validation at both input points and component level

3.Do not accept wrong commands

4.Beware of special commands, characters and quoting

5.Do not allow escapes, when designing your own quoting mechanisms.

6.Understand the data better, so that it can be filtered better.

7.Blacklist: Reject data that you are known to be bad.

Data has to be understood and used. Trust the data, even if you pass it to some other component.

Optical Data Entry Technique
As handmade data entry is frustrating in many a times, we use some other optical techniques to receive a data and to decode it to back.

In Computer Science, Speech Recognition is used to translate the spoken words into text. So, instead of typing all the text manually, this ASR technique can be used. ASR stands for Automatic Speech Recognition. This technology uses "Training" where an individual speaker reads section of text into SR System. This system is called as" Speaker Dependent System". Systems that don't use" Training" is called "Speaker Independent System".
In order to decode the speech, we have many technologies. One such is, Voice Recognition. This refers to the technique by which, it identifies as "who" is speaking.

does not give importance to what they are saying. This is one of its disadvantages. But, recognizing the speaker can simplify the task of translating speech in systems that have been trained on specific person's voices or it can be used to authenticate or verify the identity of speaker as a part of a security process.

Conclusion
Thus, the study of Psychology and Computer science together is said to be "Cognitive Science". This is mainly concerned with "mental functions" such as memory, perception, attention of both the area of studies. Cognitive science views human as computer . For example, both human brain and computers process information, store data and have input and output procedures. Thus, using the optical data entry techniques, one can save enough time and provide an error-free data. While designing any computer related

software, psychological advices has to be obtained in order to design a user friendly interface. Thus, it is proved that Psychology and Computer Science is inter-related. Psychological conclusions are based on research and not based on tradition or common sense. Computers can be useful for development of new software and Psychology provides the suggestions for better designing.

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