**Human computer interaction**

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**Interactivity,** in computer science, is a communication between a user (human being) and a program running on a computer. It’s a two-way communication. Computer interacts with the user by displaying something on the screen or making appropriate sounds to prompt user about something and the user interacts with the computer by telling it what he/she wants from it by giving it commands through input devices like mouse, keyboard, joystick etc. The faster this interaction is the better it is. The programming industries would pay billions if you can give them a faster algorithm to enhance interactivity. Most of the user-based program, for example, games, video players, web browsers are highly interactive and user friendly. The first time I learned about this interaction was in high school and since then I find myself deeply attracted to it. Now a days, almost any industry or company or even a small store at the street corner is having this interaction one way or another every single day, which developed my interest even more on learning this interaction design, its types and applications.

The theme of this essay was also demonstrated in the class e.g. in the class meeting 3 on October 22, professor Petros gave a lecture about the Computer graphics and autonomous agents. Similarly, in the class meeting 8 on January 8, professor Melanie spoke about designs of the interactive systems. And once again in class meeting 10 on February 25, professor Rob Allison gave an overview of the virtual reality systems. All these lectures spoke of human computer interaction.

The lecture given out by professor Petros on the research area of Computer graphics and autonomous agents was interesting. He spoke of some imaging and 3d display technologies e.g. HDR, multifocal etc. which frequently involves interaction with the user. The lecture focused on how visual contents are manipulated and digitally synthesized and its different application in learning e.g. animation, imaging, geography, geometry etc.

Professor Melanie in her lecture about interactive systems gave an overview of how the interactive system works and how to design one. Operating systems like the LINUX, Mac, Windows etc., are prime example of graphical interactive systems. Web browsers and integrated Development Environment (IDEs) are also example of very complex interactive systems. The lecture was quite helpful as it helped me get an idea on how interactive system can be used and designed.

Professor rob lecture about the virtual reality and human perception in the class meeting 10, was interesting and motivational as virtual reality has wide applications in todays world e.g. in medical usage, flight simulation for training pilots, video gaming, military training, entertainment etc. We can almost simulate anything by creating virtual environments for training freshmen for e.g. driving. Professor spoke a bit about the history of the virtual reality and VR in the today’s world. He gave a bird’s eye view of how input devices (like 3D mouse, wired gloves) and different languages and software’s/ hardware’s working in the background provide user an interactive view and how a user interact.

Summing things up, in virtual reality systems, the interaction is happening through visual feedback, vibrations and other sensations to the user. In interactive systems, the whole subject lies on interaction, how to improve (i.e. getting friendlier with the user), how to design and implement this interaction (i.e. how to talk to a computer). In computer graphics, a user is instructing a computer to change e.g. a shape of an image through interaction. Everything is related to a human and computer and how this interaction takes place. To conclude, human-computer interaction has become an indispensable part of human life and human have became too dependent on it that’s its almost impossible to imagine a life without it.