

The Islamia University Bahawalpur

Sub campus Rahim Yar khan

Subject: HUMAN COMPUTER INTERACTION

Mavra Rashid 532

ASSIGNMENT n0 1

Q no 1: What are interaction paradigms? Discuss different types of paradigm?

Ans: **Paradigms of Interaction:**

New computing technologies arrive, creating a new perception of the human-computer relationship.

We can trace some of these shifts in the history of interactive technologies.

Types of paradigms:

- Time Sharing
 - Video Display Units
 - The World Wide Web
 - Ubiquitous Computing
 - Programming Toolkits
 - Computer Supported Cooperative Work (CSCW)
 - Sensor based and Context aware Interaction
-
- **Time shearing:**
1940s and 1950s – explosive technological growth

Time-sharing is a technique which enables many people, located at various terminals, to use a particular computer system at the same time.

- **Video Display Units:**

more suitable medium than paper.

1962 – Sutherland's Sketchpad.

computers for visualizing and manipulating data.

one person's contribution could drastically change the history of computing.

- **The World Wide Web:**

- Hypertext, as originally realized, was a closed system

- Simple, universal protocols (e.g. HTTP) and mark-up languages (e.g. HTML) made publishing and accessing easy

- Critical mass of users leads to a complete transformation of our information economy.

- **Ubiquitous Computing:**

“The most profound technologies are those that disappear.”

Late 1980's: computer was very apparent

How to make it disappear?

- Shrink and embed/distribute it in the physical world
- Design interactions that don't demand our intention

- **Programming Toolkits:**

- Engelbart at Stanford Research Institute
- the right programming toolkit provides building blocks to producing complex interactive systems

Metaphor:

- relating computing to other real-world activity is effective teaching technique
- file management on an office desktop
- word processing as typing? virtual reality – user inside the metaphor

Problems

- some tasks do not fit into a given metaphor
- cultural bias
- **Computer Supported Cooperative Work (CSCW):**
 - CSCW removes bias of single user / single computer system
 - Can no longer neglect the social aspects
 - Electronic mail is most prominent success
- **7.Sensor based and Context aware Interaction:**
 - Humans are good at recognizing the “context” of a situation and reacting appropriately
 - Automatically sensing physical phenomena (e.g., light, temp, location, identity) becoming easier

Q no 2: what do you know about interaction design? briefly explain all its type?

what is design?

- achieving goals within constraints
- goals – purpose
- who is it for, why do they want it?
- constraints
- materials, platforms, cost, developing time, safety and health issues, we cannot achieve all our goals within the constraints
- trade-offs
- choosing which goal or constraint can be relaxed so that others can be met

Interaction Design:

interaction design of interactive products and services in which a designer's focus goes beyond the item in development to include the way user users will interact with it. Study of the way people interact with technologies. Major part of HCI is about doing things and making things-design. Design interactions not just interfaces. Designing interventions not just artefacts.

Golden Rule of Design:

1. understand your materials
2. To err is human

1.understand your materials:

- understand computers
- limitations, capacities, tools, platforms
- understand people
- psychological, social aspects
- human error
- and their interaction

2.To err is human:

- accident reports.

air crash, industrial accident, hospital mistake

- enquiry... blames ... 'human error'
- concrete lintel breaks because too much weight
- blame 'lintel error'?
- we know how concrete behaves under stress
-

The Process of Design:

- requirements
 - what is there and what is wanted ...
- analysis
 - ordering and understanding
- design
 - what to do and how to decide
- iteration and prototyping
 - getting it right ... and finding what is really needed!
- implementation and deployment
 - making it and getting it out there
- Persona:
 - description of an 'example 'user
 - not necessarily a real person
 - use as surrogate user
 - what would Betty think
- details matter
 - makes her 'real'

Cultural Probes:

- Direct observation
 - sometimes hard
 - in the home
 - psychiatric patients, ...
- Probe packs
 - items to prompt responses
 - e.g. glass to listen at wall, camera, postcard
 - • given to people to open in their own environment they record what is meaningful to them
- Used to ...
 - inform interviews, prompt, ideas, enculture designers

