Lecture 1 : Introduction to Human-Computer Interaction (CSC4130) - Lecture 1

1. HCI Overview

- Definition:

  - Academic Aspect:

    - Focuses on the study of how people interact with computers. This encompasses understanding user behaviors, preferences, and the challenges they face.

    - Over the years, the academic perspective has evolved from basic word processing and interface design in the 1980s to the integration of touch screens and wearable computing in the 2000s.

  - Design Aspect:

    - Concerned with designing systems and interfaces that facilitate user-computer interactions.

    - It's not just about aesthetics but ensuring functionality, usability, and user satisfaction.

- Historical Evolution:

  - 1980s:

    - Emphasis on word processing, database management, and the foundational elements of interface design.

  - 1990s:

    - Introduction of graphical interfaces which revolutionized user interaction.

    - A heightened focus on usability and communication tools.

  - 2000s:

    - Rise of platforms allowing user-generated content.

    - Introduction of touch screen technology, promoting more intuitive user interactions.

    - Emphasis on collaboration, emotional connection in design, and the advent of wearable

computing.

- HCI Academic Contributions:
  - Empirical: Data-driven insights using various methods like experimental design, surveys, and ethnography.
  - Artifact: Design and development of new tools, interfaces, and systems. This includes everything from mock-ups to fully functional prototypes.
  - Methodological: Introduction or modification of research or design methods. This also includes the development of new metrics or instruments for evaluation.
  - Dataset: Providing data repositories or benchmark tasks for the broader research community.
  - Survey: Comprehensive reviews of existing work in specific areas, identifying trends and gaps.
  - Opinion: Persuasive writings based on existing contributions, aiming to shift perspectives or paradigms.
- HCI Design Principles:
  - Usability: Ensuring the system is user-friendly and intuitive.
  - Learnability: How quickly a new user can adapt to the system.
  - Efficiency: Speed and productivity once the system is learned.
  - Safety: Minimizing errors and ensuring they are easily recoverable.