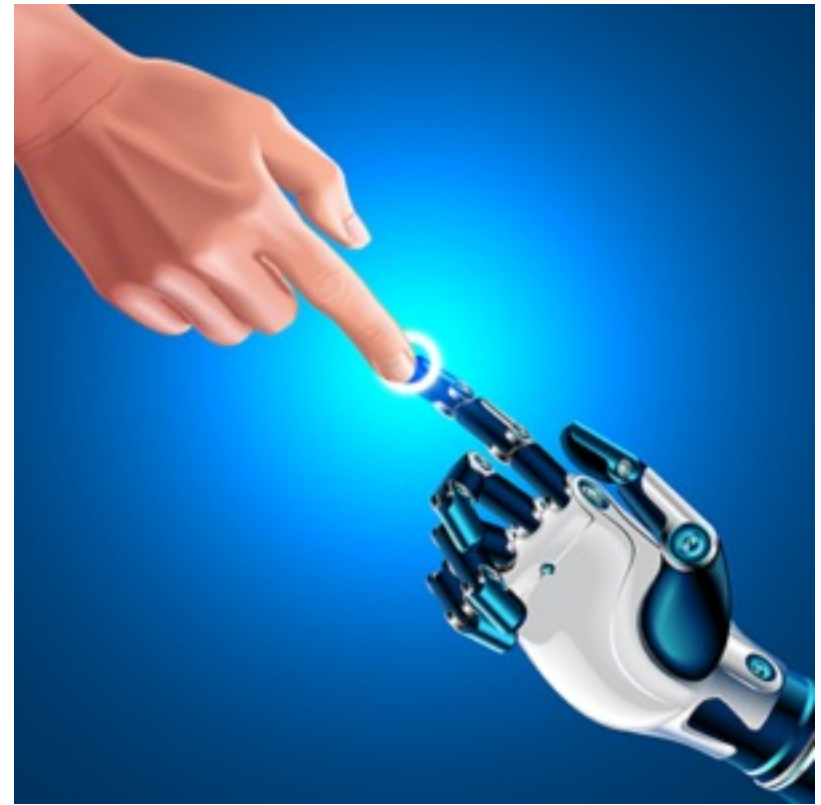# HUMAN COMPUTER INTERACTION

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LESSON GOALS

- You will understand the different general areas to which HCI can be applied, like different content domains, technologies, and processes.

- You will understand more narrowly the specific places to which HCI can be applied, like education, healthcare, and virtual reality.

- You will understand the focus of HCI on tasks rather than merely tools.

- You will understand the scope of a task.

- You will understand the notions of usefulness and usability.

- You will understand the different views on a person's role in a system.

- You will understand the existence of user experience at the group and societal level.

LESSON OUTCOMES

- You will be able to articulate the different areas to which HCI can be applied.

- You will be able to describe the areas of HCI in which you are most interested to keep in mind during the rest of the course.

- You will be able to identify a task at the proper scope.

- You will be able to describe the different views of the user in different human-computer systems.

- You will be able to describe how the different views influence interface design.

- You will be able to describe the effects of interface design at the group and societal level.

LESSON PLAN

- You will be introduced one-by-one to different fields.

- You will first be introduced to HCI's emphasis on tasks, not interfaces or tools.

- You will then be introduced to the three views of the human in a human-computer system, focusing on how the predictor and participant views emphasize task design over interface design.

- The participant view of the user will then be used to explain user experience at the individual, group, and societal levels.

EXPLORING HCI

- ➢ **Technologies**
- ➢ **Domains**
- ➢ **Ideas**

TECHNOLOGY: VIRTUAL REALITY

Virtual Reality: an immersive computer-simulated reality

VR Therapy and Counseling Center, Grand Rapids, Michigan

VR IN

TECHNOLOGY: AUGMENTED REALITY

Augmented Reality: real world environments that are complemented by computer-generated multimedia.

TECHNOLOGY: UBICOMP AND WEARABLES

Ubiquitous Computing: computing power anytime, anywhere.

Wearable technology: Technology embedded in clothing or devices a person can wear.

TECHNOLOGY: ROBOTICS

"I am C-3PO human-cyborg relations."
-Star Wars

"A robot may not harm humanity, or, by inaction, allow humanity to come to harm." -Isaac Asimov

TECHNOLOGY: MOBILE

Mobile: portable computing devices built to be used easily on the go.

Limited screen real estate

Imprecise input methods

Distracted users

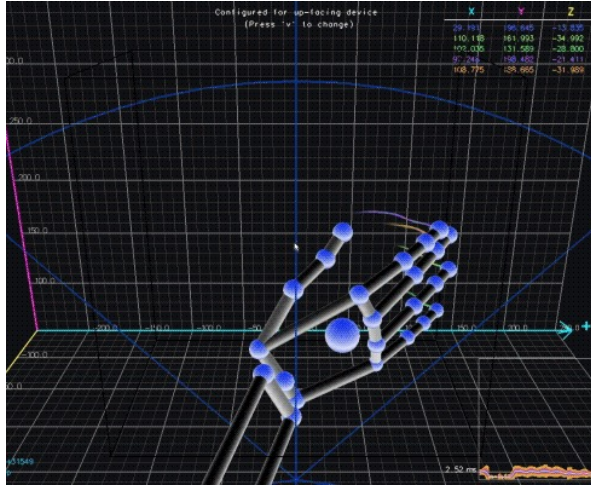Social networking
Personal organization
Games

Writing essays
Programming
Video editing

IDEA: CONTEXT-SENSITIVE COMPUTING

Context-sensitive computing: Equipping user interfaces with historical, geographical, or other forms of contextual knowledge.

IDEA: GESTURE-BASED INTERACTION

IDEA: PEN- AND TOUCH-BASED INTERACTION

IDEA: SOCIAL COMPUTING

HCI DOMAINS

Domain: Healthcare

Domain: Special Needs

Domain: Education

Domain: Security

Domain: Games

INTERFACES: BETWEEN USERS AND TASKS

5 TIPS: IDENTIFYING A TASK

1. Watch real users
2. Talk to them!
3. Start small
4. Abstract up
5. You are not your user

END OF LECTURE