

SWE 503 | Lec 6 | Sep 9, 2025

# Cognitive Aspects of HCI

Dr. Omar Hammad

Watch this video..

[https://www.youtube.com/watch?v=KB\\_ITKZm1Ts](https://www.youtube.com/watch?v=KB_ITKZm1Ts)

# In today's lecture:

- The full picture of the rest of the course
- Introduction to Cognitive aspects
- Attention

## Full picture:

1. Discover: ???
2. Define: ??
3. Develop: ??
4. Deliver: ??

# INTERACTION DESIGN



beyond human-computer interaction

## Full picture:

1. Discover: Ch 4, 5, 6, 8
2. Define: Ch 9, 10, 11
3. Develop: Ch 12, 13
4. Deliver: Ch 14, 15, 16

# INTERACTION DESIGN



beyond human-computer interaction

**Remember the three core principles of HCI?**

# Remember the three core principles of HCI?

**Early focus on users  
and tasks**

Empirical  
measurement

Iterative design

Understand what in users ??

~ 5 minutes

**Answer the following question on a piece of paper.**



**What was your proposal subfield?**

**What is today's date?**

**y equals 2 times x minus 2. And you're given that x equals 3. So, what's the value of y?**

$$y = 3x - 2$$

$$x = 2.5$$

$$y = ?$$

**What was the slide color of the “What is today’s date?”**

Today we will start with

# **Cognitive aspects**

What is ??

**Cognitive aspects = Mental processes**

Such as .. ??

# Cognitive aspects

Attention

Memory

Perception

Decision

Thinking

...

They are all interconnected..



## Find the price of a double room at the Holiday Inn in Bradley, Pennsylvania

### South Carolina

City	Motel/Hotel	Area code	Phone	Rates	
				Single	Double
Charleston	Best Western	843	747-0961	\$126	\$130
Charleston	Days Inn	843	881-1000	\$118	\$124
Charleston	Holiday Inn N	843	744-1621	\$136	\$146
Charleston	Holiday Inn SW	843	556-7100	\$133	\$147
Charleston	Howard Johnsons	843	524-4148	\$131	\$136
Charleston	Ramada Inn	843	774-8281	\$133	\$140
Charleston	Sheraton Inn	843	744-2401	\$134	\$142
Columbia	Best Western	803	796-9400	\$129	\$134
Columbia	Carolina Inn	803	799-8200	\$142	\$148
Columbia	Days Inn	803	736-0000	\$123	\$127
Columbia	Holiday Inn NW	803	794-9440	\$132	\$139
Columbia	Howard Johnsons	803	772-7200	\$125	\$127
Columbia	Quality Inn	803	772-0270	\$134	\$141
Columbia	Ramada Inn	803	796-2700	\$136	\$144
Columbia	Vagabond Inn	803	796-6240	\$127	\$130

## Find the price for a double room at the Quality Inn in Columbia, South Carolina

Pennsylvania  
Bedford Motel/Hotel: Crinaline Courts  
(814) 623-9511 S: \$118 D: \$120  
Bedford Motel/Hotel: Holiday Inn  
(814) 623-9006 S: \$129 D: \$136  
Bedford Motel/Hotel: Midway  
(814) 623-8107 S: \$121 D: \$126  
Bedford Motel/Hotel: Penn Manor  
(814) 623-8177 S: \$119 D: \$125  
Bedford Motel/Hotel: Quality Inn  
(814) 623-5189 S: \$123 D: \$128  
Bedford Motel/Hotel: Terrace  
(814) 623-5111 S: \$122 D: \$124  
Bradley Motel/Hotel: De Soto  
(814) 362-3567 S: \$120 D: \$124  
Bradley Motel/Hotel: Holiday House  
(814) 362-4511 S: \$122 D: \$125  
Bradley Motel/Hotel: Holiday Inn  
(814) 362-4501 S: \$132 D: \$140  
Breezewood Motel/Hotel: Best Western Plaza  
(814) 735-4352 S: \$120 D: \$127  
Breezewood Motel/Hotel: Motel 70  
(814) 735-4385 S: \$116 D: \$118

# What was the difference ?

Which was easier? why?

# Attention is affected by

Clear Goal

Presentation

# So what?

What are the design implications of attention?

# Design implications of attention

- Consider context (office vs driving, game vs work)
- Clear presentation (boxing, spacing, )
- Consider switching (e.g. info from ids)
- Demographics (e.g. age, etc.)

Next class:

- Other cognitive aspects
- Cognitive frameworks