



# CS-525H: Immersive HCI

## Immersion

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# What *is* Immersion?

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- ❑ "Being There"
- ❑ Being in *Flow*
- ❑ Natural interaction that recedes into the background
- ❑ Tapping into personal experience

# Being There: Remote Physical Environment

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- Phone
- Video conference
- Teleoperated robots

# Being There: Virtual Environment

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- Video game
- Immersive learning environment
  - Immersive chemistry
- Surgical simulation
- MMO

# Being There: Real Environment

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- Hand-held mobile device
  - iPhone/iPad/Android
  - DS/PSP
  
- In-vehicle system
  - Navigation
  - Traffic

# Being There: Described Environment

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- Books
- Movies
- Phone sex

# Being in Flow

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- Introduced by Mihály Csíkszentmihályi
  - *Flow: the Psychology of Optimal Experience.*  
Harper Perennial, 1990
  - Heightened sense of perception
  - Highly focused on primary task
  - In the "sweet spot" between frustration and boredom
  
- Athletes often report this
  
- Video gamers too

# Characterizing Flow

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- ❑ A challenge activity that requires skills
- ❑ The merging of action and awareness
- ❑ Clear goals
- ❑ Direct feedback
- ❑ Concentration on the task at hand
- ❑ The sense of control
- ❑ The loss of self-consciousness
- ❑ The transformation of time



# Natural Interaction

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- Recedes into the background
  - Low cognitive load for interaction techniques
  - Visual (and other) feedback can be easily digested
  - Low cumber

# The Role of Personal Experience

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- We all filter our senses
- Variations in sight, hearing, etc.
- My childhood versus yours
- My mood
- Can we harness this?

# When is Being Immersed *Bad*?

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