

1. Introduction to IxD
2. Conceptualizing Design
3. Persuasion, Emotion & Trust
4. **GUI's and NUI's**



# GUI's and NUI's

## *Graphical User Interface*

How we have interacted with technology for a long time now.  
Keyboard and mouse, screens and displays.

## *Natural User Interface*

Interfaces that support our natural capacities and actions as human beings.



# GUI's Windows Interface



Changing the GUI in personal computers “10/GUI”

<https://vimeo.com/6712657>



# Jarvis – Tony Stark's NUI



Image courtesy of Fuel VFX  
copyright: © 2013 Marvel Studios



# Jarvis – Tony Stark's NUI



NUI's make use of our human modes of interaction

Voice

Physical movement (not just our hands)

Hearing

Sight

Can we further incorporate natural movements and gestures in technology design?





# Gest/Wii motion



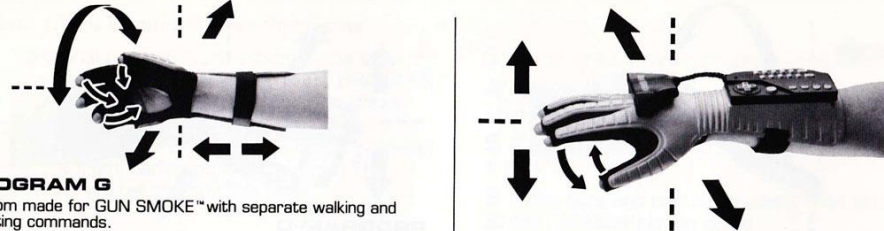
# The Nintendo Power Glove

Poor sensor technology

Minute movements not registered

Remembering movements that were not natural to the user, inorganic movements

Tried to simulate an “interactive natural experience” and failed dismally. However, aided in introducing NUI’s in a games context



**PROGRAM G**  
Custom made for GUN SMOKE™ with separate walking and shooting commands.

ACTION	RESULT
hand right	man moves right
hand left	man moves left
hand forward	man moves up the screen
hand back	man moves down the screen
index bent (grab)	man shoots
hand 2 o'clock	man shoots right
hand 12 o'clock	man shoots straight
hand 10 o'clock	man shoots left
thumb and ring bent	stops all action (used for menus)

**PROGRAM H**  
When you are centered the glove beeps. This program works with many games so you can learn how to keep your moves centered.

ACTION	RESULT
hand up	UP button
hand down	DOWN button
hand left	LEFT button
hand right	RIGHT button
thumb bent	A button (pulsed)
index bent	B button (pulsed)

**PROGRAM I**  
Turbo blasting driving excitement! This driving game program works best with KNIGHT RIDER™. It's like Program 8, but has added firing features.

ACTION	RESULT
hand forward	turbo on
index bent	throttle on
hand down	brake on
thumb bent	fire the guns
hand 2 o'clock	car right
hand 11 o'clock	car left

**BAD STREET BRAWLER**  
The first Power Glove Gaming Series Game. Practice your moves between each round to get ready to do battle the bad guys on Bad Street.

ACTION	RESULT
hand right	Duke right
hand left	Duke left
hand up	Duke jumps
hand down	Duke squats
thumb bent	B-gesture (pulsed) – e.g. punch
middle bent (grab)	AB-gesture – e.g. grab
hand 3 o'clock	A-gesture + turn right – e.g. kick right
hand 11 o'clock	A-gesture + turn left – e.g. kick left
hand forward	GLOVE ZAP (once per round)

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# Forced NUI's

Ergonomical issues for touch screens

Viewing angles

Touch targets in conventional GUI interface – not adapted to touch

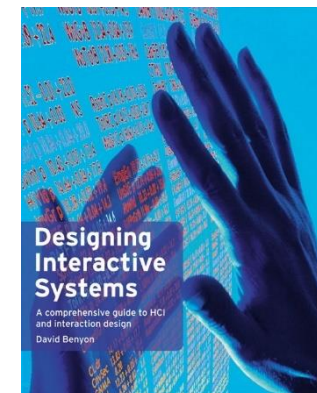
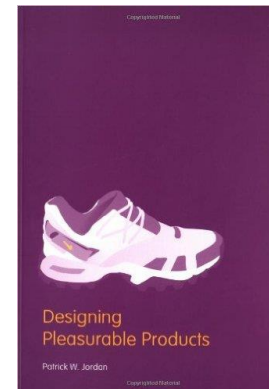
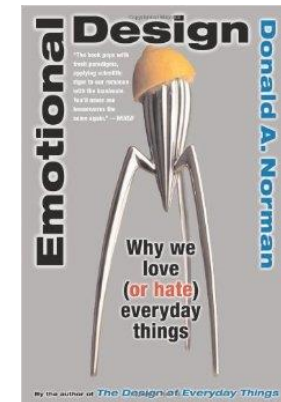
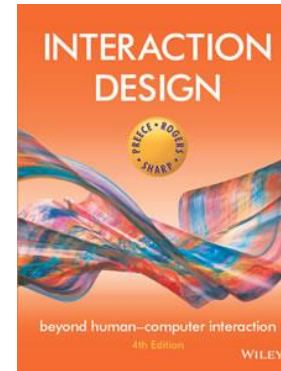
Mode switching





# Further reading

- Preece, J., Rogers, Y., & Sharp, H. (2015). *Interaction design: Beyond human-computer interaction* (Fourth ed.). Hoboken: John Wiley & Sons.
- Norman, D. A. (2004;2007;2005;). *Emotional design: Why we love (or hate) everyday things* (1st ed.). New York: Basic Books.
- Jordan, P. W. (2000;2003;2002;). *Designing pleasurable products: An introduction to the new human factors* (1st ed.). London: Taylor & Francis.
- Benyon, D. (2010). *Designing interactive systems: A comprehensive guide to HCI* (2nd ed.). N.Y;Harlow, England;: Addison Wesley.



# Further studies

I'm interesting in learning more, where can I go from here at QUT  
in IxD and HCI?

**CAB210** – People Context & Technology – Sem 2

**CAB310** – Interaction & Experience Design – Sem 1

*You've already taken the first steps in Interaction Design during your  
time in 103. I hope you enjoy them!*

*Next week we will look at Data collection & Defining ICT problems*



# Drawing it **all** together

**Interaction Design is a key domain that links with what we do as IT designers.**

**Please use this content as ammunition with which to arm yourself as a better IT designer.**

