Exploratory Design for New User Interfaces

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Introduction

- Josh Lee
- Floor Is Lava
- Experience
  - Sifteo
  - Excite Truck

User interface

- UI = Input + Output

User interface

- UI = Input + Output + Context

Innovations in UI

- Then: Focus on outputs
- Now: Inputs ahoy!

Pop quiz

- Q: What are the most important games in Microsoft's history?

Pop quiz

- Q: What are the most important games in Microsoft's history?
- A: Minesweeper and Solitaire

Learning to mouse

Designing for new user interfaces

- Design to Discover
- Design to Teach
- Design for the Body
- Design for the Environment
- Design to Inspire

Design to discover

- Be humble
- Become an expert
- Make games. Lots of games!

Sketch all the ideas

- Get *all* your ideas on paper
- Flesh out details
- Figure out what *doesn't* work

Focus on mechanics

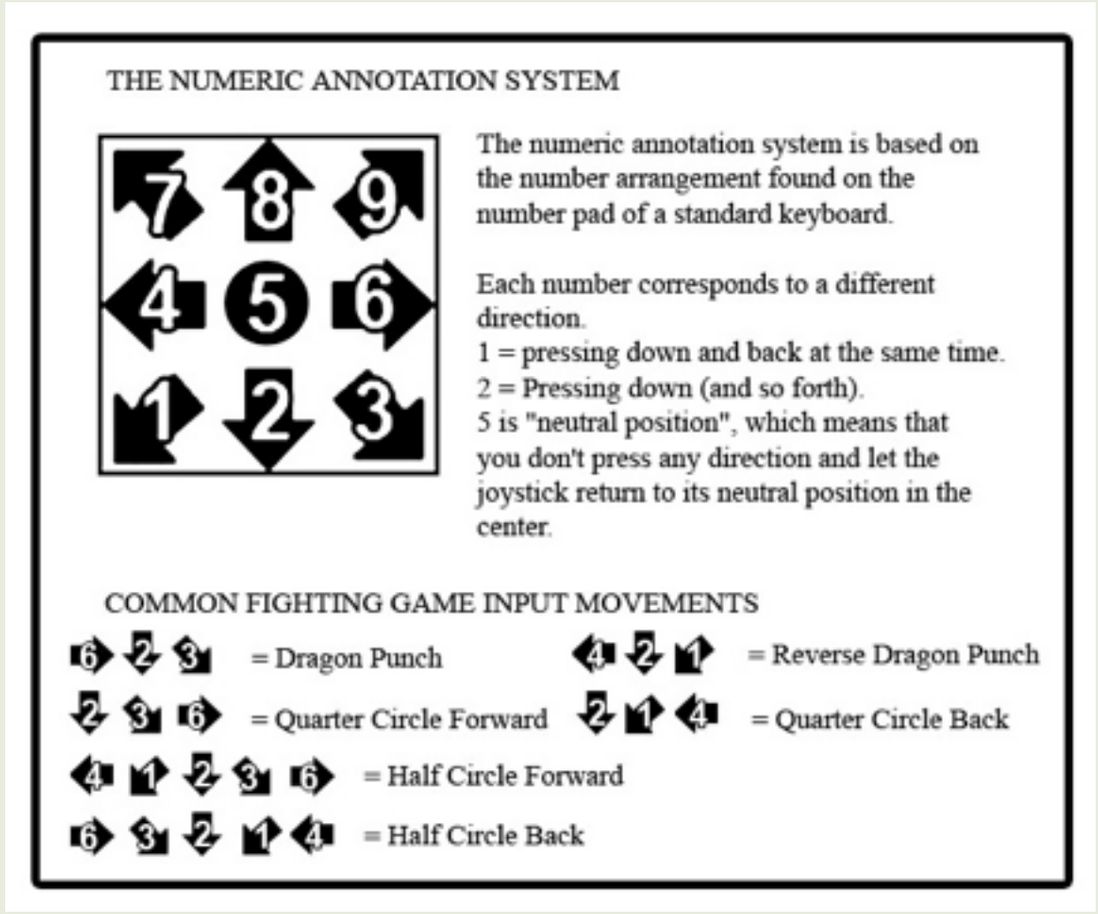
- Bottom-up design
- Worry about the other stuff later
- Explore the unknown

Small is beautiful

- Simple mechanics lead to small games
- Look for the Minesweeper, not the Starcraft

Develop the interaction language

- Give names to gestures
- Simple vs. Compound gestures



The most important question

- “Would this game work better in another interface?”

The even more important question

- “Would this game even be *possible* in another interface?”

Design to teach

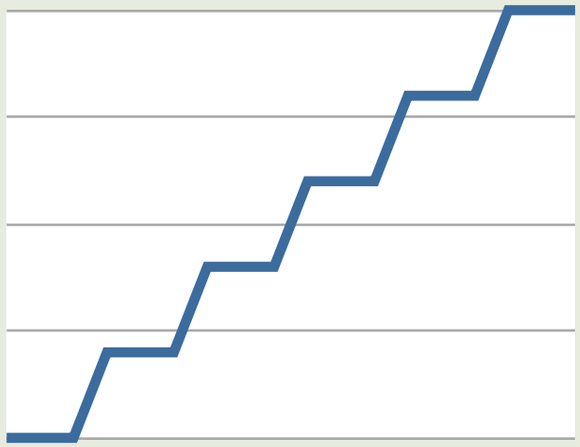
- Teaching ≠ tutorials
- Teaching = sharing discoveries
- Let the player explore
- Design each game as if it's the first thing the user has ever seen in the interface

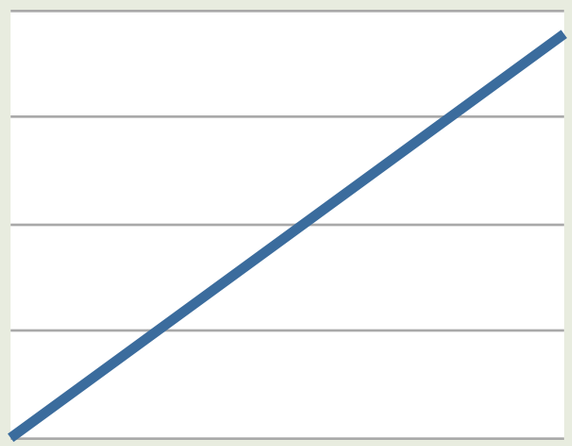
Keep it simple

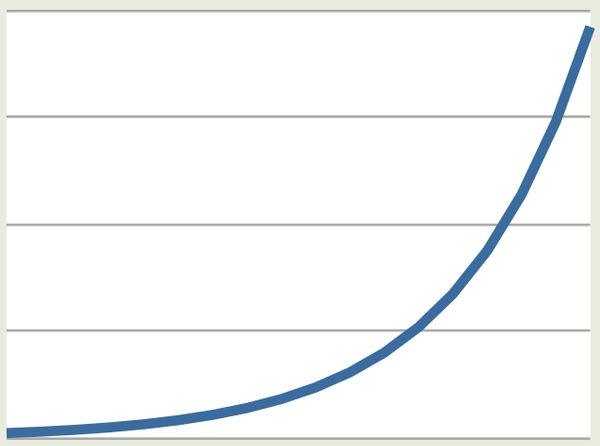
- Simple gestures first
- Compound gestures later

Learning and difficulty curves

- Normally: steady upward movement

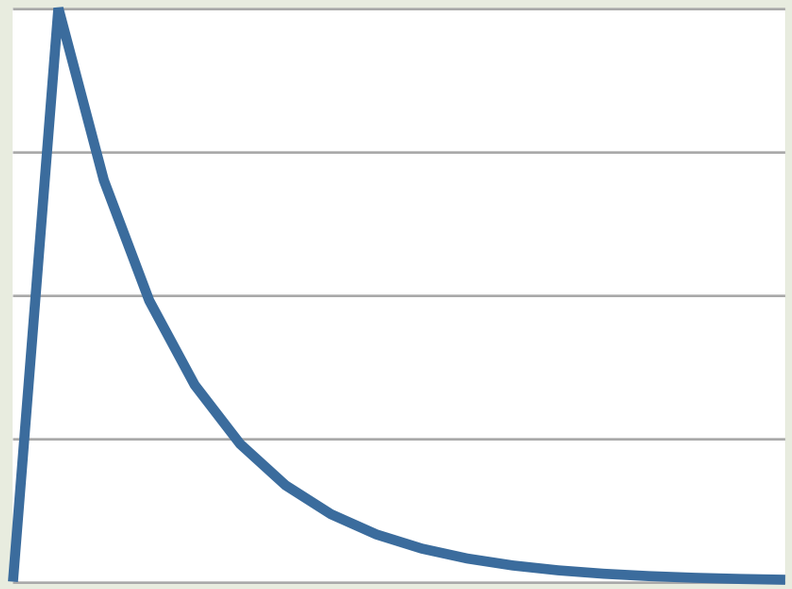






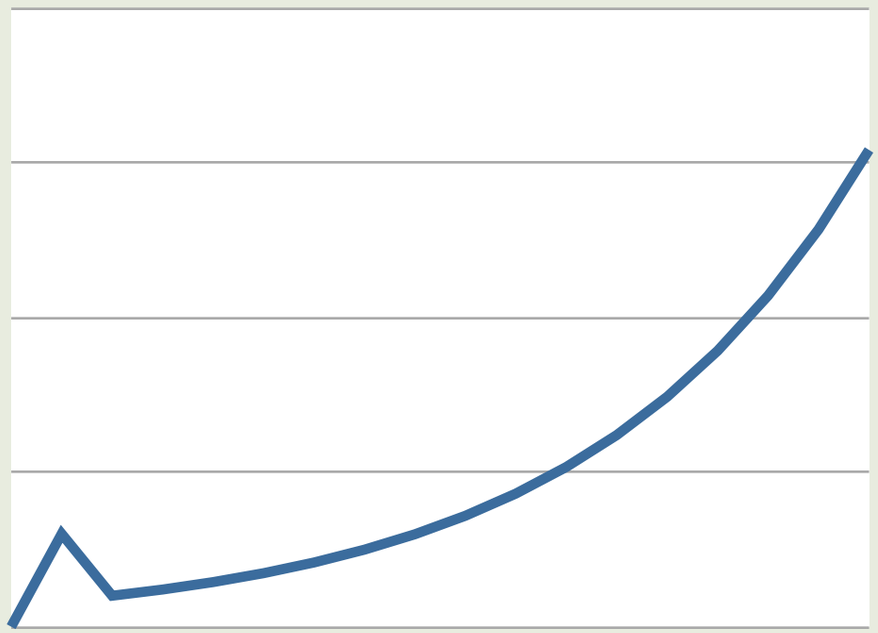
Learning and difficulty curves

- Unfamiliar UI introduces early spikes
- The interface is hard; your game doesn't need to make it harder



Learning and difficulty curves

- Reduce cognitive load while players get over the hump
- Raise difficulty organically



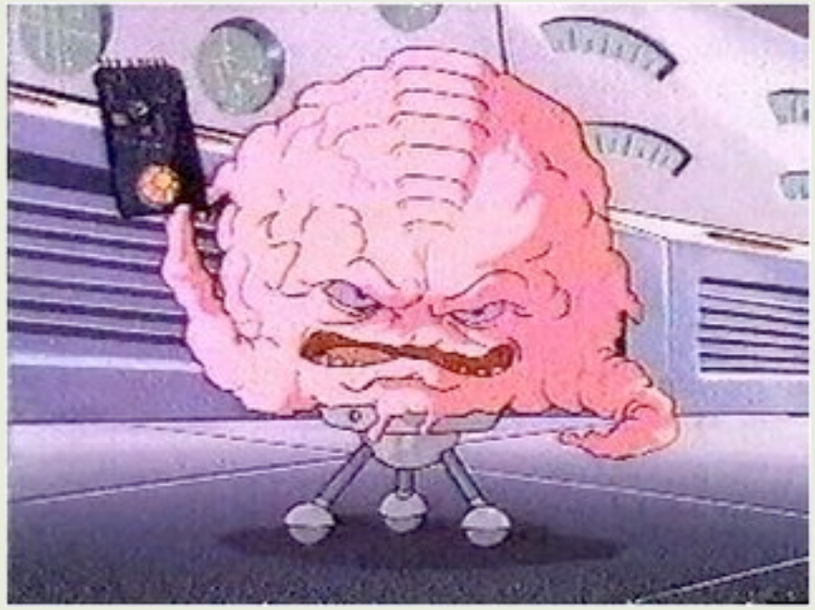
Design for the body

- Then: minimal body movement

- Now: full body UIs

Design for the body

- A human is not just a brain with fingers



Watch for fatigue

- Physical fatigue
  - Changing controller usage
- Eye strain

Playtest Playtest Playtest

- Observational vs. metrics, interviews
- Watch the player
  - Face
  - Hands
  - Posture

Design for the environment

- There is no virtual world, there is only this world.

Awareness of space

- Where is the game being played?
- Who is playing? Who is observing?
- How does the site of play affect the activity of play?

Playtesting in the home

- More comfortable for the player
- Examine the sites of play
  - Site of play affects ergonomics
  - Inquire about when play happens
- Investigate the scene!

Wait a minute...

- Why are we doing all this again?

New UI: Sifteo

New UI: Second screens

New UI: Sphero

- Smartphone-controlled robot roller balls

New UI: VR goggles (again!)

New UI: Personal telemetry

- Fitbit, Fuelband, etc.
- Is that a bundle of sensors in your pocket, or are you just… oh. That's a bundle of sensors in your pocket.

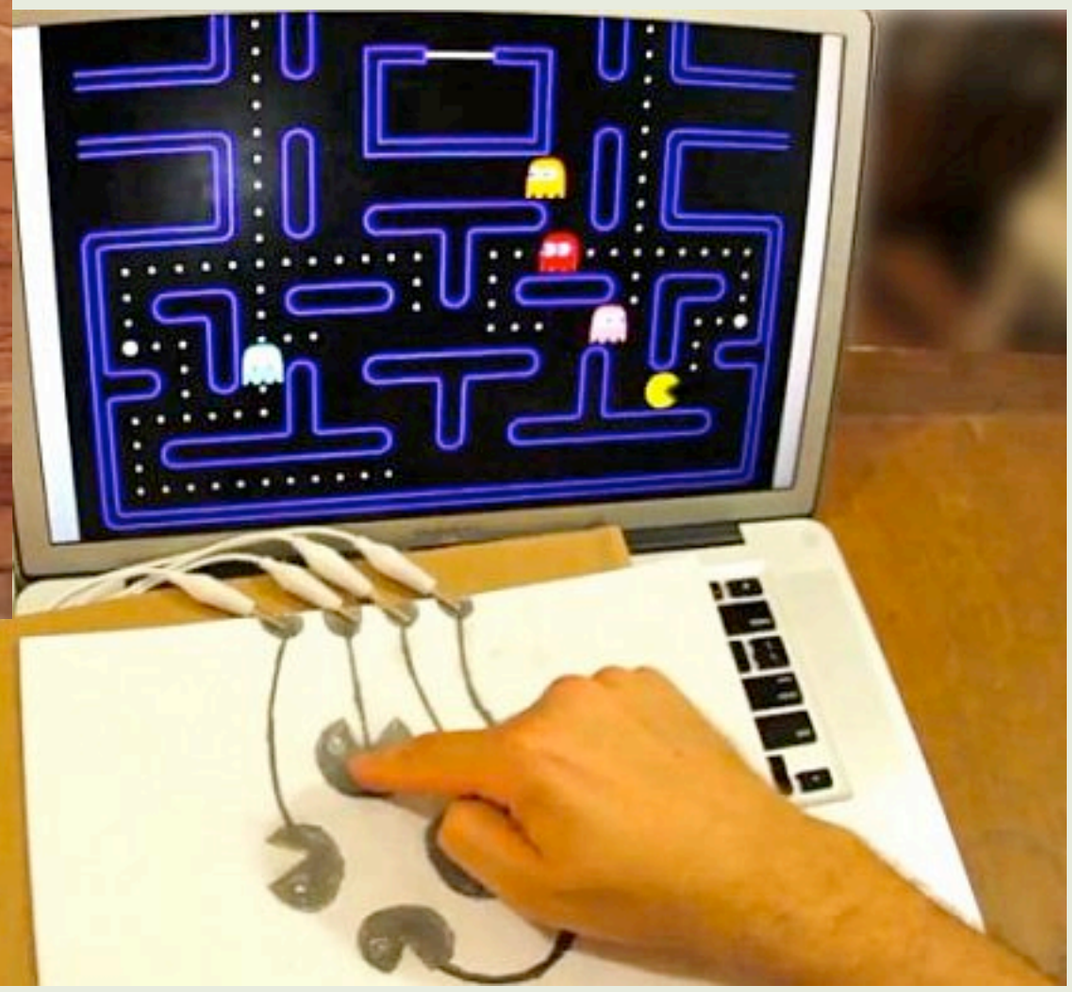
New UI: 3D printers

New UI: Emotiv

- OMG brain control

New UI: Makey Makey

- Turn any conductive surface into a controller



Design to inspire designers

- Lead, don't follow
- Draw the map for other designers

Design to inspire players

- Show players new possibilities
- Explore new spaces with them

Thanks!

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