COMP140: Creative Computing Hacking

Interface Design & Evaluation

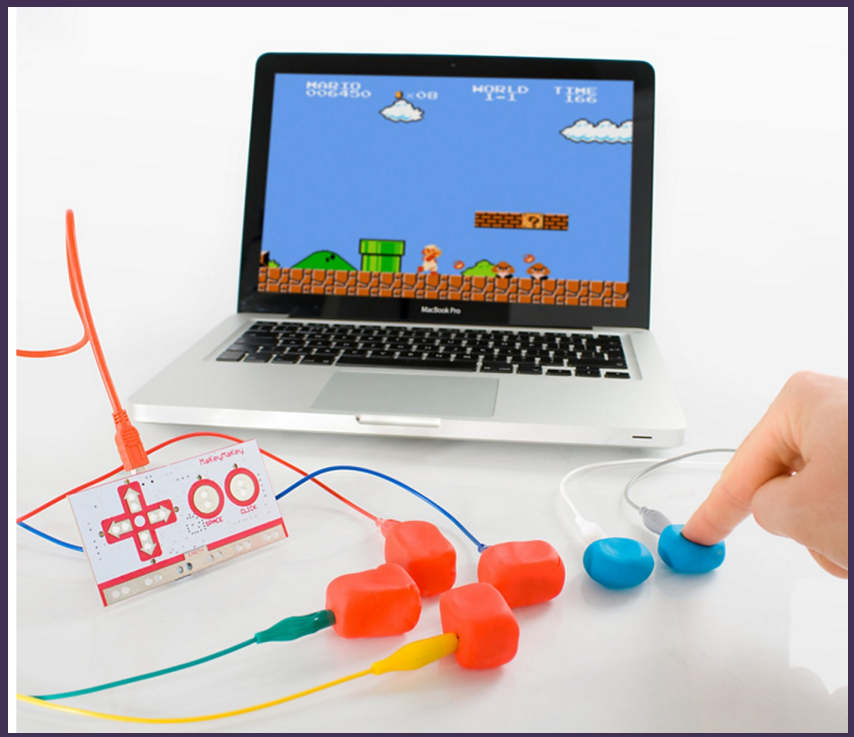
Lecture Objectives

Today's lecture will build upon the practical design of your game controller, focusing on:

- Exploring the nature of input, output, and interaction styles
- Examining the role of prototyping in design
- Practical guidelines on one design evaluation technique: heuristic analysis

This will be followed up by a practical in which you will identify heuristics and apply them to a peer's game interface.

Important Notice



Remember to bring your *Makey Makey* kit and associated materials to these lectures for practical support toward the end of each of these sessions.

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Input, Output, and Interaction Styles

Learning Outcomes

In this section you will learn how to...

- **Explain** what is meant by 'cognition'
- **Show** the importance of information processing models to HCI
- **Explain** the shortcomings of cognitive and information processing models
- **Discuss** the role of cognitive models in games, and HCI more broadly

Further Reading

- Eysenck, M.W. and Keane, M.T. (2000) *Cognitive Psychology: A Student's Handbook*. 4th Edition. Erlbaum Associatates.
- Preece, J., Rogers, Y., Sharp, H., Benyon, D., Holland, S., and Carey, T. (1994) *Human-Computer Interaction*. Addison-Wesley.

What is Cognition?

- The cognitive approach is currently the dominant framework (or paradigm) for HCI (Perry, 2006).
- Players are characterised as `information processors', in which information undergoes a series of ordered processes in the player's mind.
- This worldview draws a comparison between the human brain and a computer; we can therefore model player activity in the same way that we model computer processing.

Socrative JBYPC3BBY

- In pairs.
- Quietly discuss what you think is meant by the term ‘cognition’ for 2-minutes.
- **Explain** cognition in your own words.

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Prototyping

Learning Outcomes

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Usability Evaluation and Heuristic Analysis

Learning Outcomes

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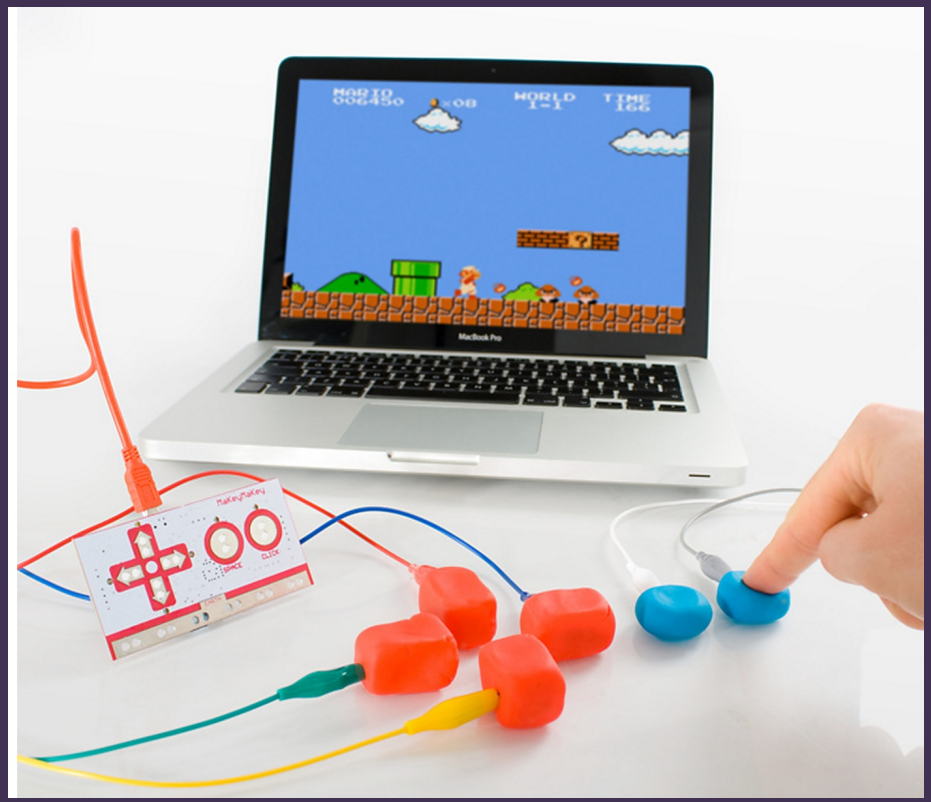
What is Cognition?

In a simple model of cognition, such as that proposed by Barber (1988), the process of cognition can be described as composing four sequential stages:



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Practical Activity

Heuristic Analysis

- **Review** the heuristics at `https://www.nngroup.com/articles/ten-usability-heuristics/`.
- Self-organise into pairs.
- **setup** your game and novel game controller.
- **Demonstrate** the prototype to a peer.
- **Conduct** a heurstic analysis of your peer's game interface, following the guidence at: `https://www.nngroup.com/articles/how-to-conduct-a-heuristic-evaluation/`