Design for Interaction

Week 1: Introduction to the Module

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- About the module
- Administrative details
- Interactivity and interactive systems

Aims of the Module

- To learn about different types of interactive systems and the forms of content they can provide
- To understand what constitutes good design for interactivity
- To design and implement an interactive experience according to a specification

Module Structure

- Lecture course
  - Interaction design principles and issues
  - Forms of interaction
  - Devices, users and target applications
- Lab sessions
  - Learning the process of interaction design
  - Workshops highlighting relevant topics
  - Development tasks linked to assessments

Authoring for Interaction

- Principal theme of the module is the creation of interactive content
  - Design and production
  - How to do this effectively
- What exactly do we mean by interaction?
- In what ways can we allow a user to interact with a product or a piece of content?

What is an Interactive System?

- Various definitions…
  - "one which can actively involve the user physically, intellectually, emotionally and/or socially"
  - "one which adapts to the user's actions and allows varied degrees of freedom"
- These suggest an enormous range of concepts and situations

Soft and Hard Interaction

- One common distinction is between “hard” and “soft” interactive material
- Soft interactions are those required to navigate through a piece of content
  - For example, links within a website
  - Many developers would claim that this is not, in fact, true interactivity
- Hard interactions are those which affect the material itself (eg. playing a game)

Interaction Examples

- Gameplay
  - Soft: avatar moves through the game environment
  - Hard: avatar shoots another player
- Social networking site
  - Soft: reading another user's profile
  - Hard: uploading content and making it available to other users

Making Interactivity Meaningful

- Interactivity is most successful when it is perceived as meaningful by the user
  - When users perceive a link between their actions and what happens in response
  - When they perceive a structure in the system they are accessing
  - When the interaction appears to achieve something “useful” (in the broadest sense)

Platforms for Interactivity

- Interactive content is present in a huge, and ever increasing, variety of contexts
- Some obvious ones are:
  - The Web (in all its forms)
  - Software tools (Word, Photoshop,...)
  - Smartphone apps
  - Video games

Other Interactive Platforms

- Less obvious examples are:
  - Electronic programme guides
  - Software interfaces
  - Smart watches
  - Media players
  - Sat-nav devices
  - Microwave ovens
  - Kettles

Kettles?

- A kettle has the basic characteristics of an interactive device
  - Input mechanism (on/off switch)
  - Our actions can alter the state of the device in meaningful ways
  - We can receive information about the state of the device
  - It does something useful!

Design Examples

Interactive Systems

- All the devices mentioned above have an interface between the user and the system
- In many cases, this incorporates a screen or visual display of some kind
  - Other kinds of interface are perfectly possible
- There is also an input mechanism by which we can affect the system
  - These come in a very wide range of forms

Modes of Interaction

- A common way of categorising interactive devices is by the input mechanism(s) used
- Examples:
  - PC keyboard (plus mouse/pointing device)
  - Keypad (eg. TV remote)
  - Touchscreen (smartphone, tablet,...)
  - Sound (some specialist devices or interfaces)
  - Movement (consoles, arcade games, car)

Interaction Design

- These different modes of interaction all have a common aim
- The system should respond in a meaningful manner to user actions
- Achieving this can be a serious design challenge
- Understanding this challenge will be one of the principal themes of the module

Factors Influencing Design

- Need to consider:
  - Human psychology: how to we understand and relate to aspects of technology
  - Fundamental design principles: key concepts that cut across most (all?) design tasks
  - Target audience: what specific features will appeal to a particular market
  - Design constraints: feasibility of a task given limited time / money / technology