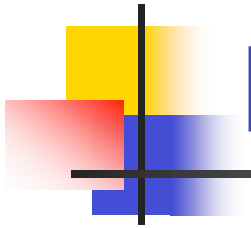
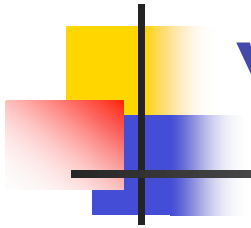


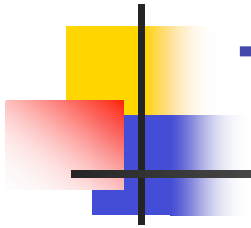
Lecture 4

- The Production Process
- New Media Design
- Interaction Design
- Typical Design Process
- Scripts and Storyboards
- Heuristics and Guidelines
- Suggested Reading



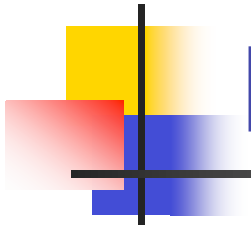
“New Media”

- Multimedia + Web + More
- Interactive digital systems
- Rapidly changing tools, with ever increasing functionality
- Need general principles that will work with new tools as well as existing tools



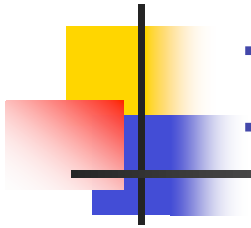
The Production Process

- Project research
- Project planning, e.g. GANTT Chart
- Product research and definition
- Specification, e.g. high/low level and functional/non-functional requirements
- Implementation research and planning
- Design, e.g. Structure, Script, Storyboard
- Implementation
- Evaluation



New Media Design

- New Media
  = Multimedia + Web + More
- Like a giant jigsaw puzzle
- Many tools, many skills
- Some old, some new
- How do we put them all together?
- We need a unified design philosophy

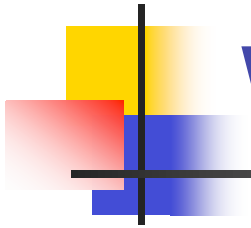


Interaction Design

- Multimedia systems are dynamic
  - They change with time
- Changes can be initiated by
  - The system, e.g. animations, videos
  - The user, e.g. clicks to navigate
- Interaction means user led changes
- We need to design that interaction

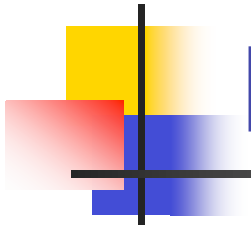
Interaction Issues

- Usability
  - Effectiveness
  - Efficiency
  - Clarity
  - Satisfaction
- Ergonomics
  - Physical
  - Mental



What Needs Designing?

- Information content
- Information organization
- Information presentation
- Interaction controls
- System dynamics
- ?

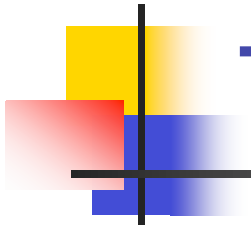


Key Issues Affecting Design

- Paymaster requirements
- User requirements
- Resources - time, money, tools, …
- Building blocks - what media
- Interaction required
- Implementation
- Testing
- Common Sense!

Building Blocks

- Text
- Sound
- Pictures
- Animations
- Video
- ?

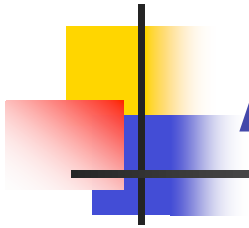


Typical Design Process

- Begin by defining the product
- Start by asking questions/brainstorming
  - Ask lots of questions
  - Possibly absurd/off the wall questions
  - Look at analogues
  - Explore extremes
  - Explore all dimensions
  - ……

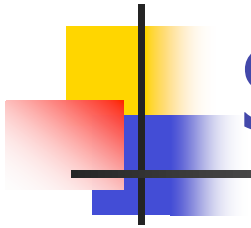
Some Important Questions

- Who is it aimed at?
- How much can it cost? Time?
- What does it need to achieve?
- What are the key messages?
- What is the main medium?
- What devices and technologies will be used?
- How will you do it?
- What is it like?
- Could it be applied to other things?
- What can we re-use?



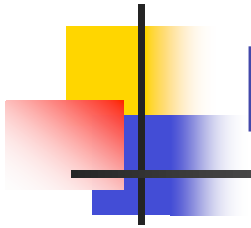
Aim of Product Definition

- Make sure you are doing the right thing
- Explore all the options
- Evaluate alternatives
- End up with a clear statement of the aims, constraints, motivations, etc.
  - Feeds into specification process
  - Can be used for evaluating final product
  - Put it all in your final report!



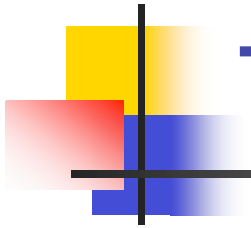
Specification

- A more concrete statement of what will be built
  - Understand the product requirements
  - Map the goals to concrete features
  - Focus on *what* rather than *how*
  - Include non-functional features
  - Include optional features



Requirements - Examples

- High Level Requirements
  - Media format must be video with overlaid audio
  - Video should convey quality of the merchandise
- Functional (Quantitative) Requirements
  - Media format must enable easy web-based and DVD distribution
- Non-Functional (Qualitative) Requirements
  - Audio should inspire emotion towards the merchandise
  - Audio should not include any lyrics



Top Down Design

- Start with the Big Picture product specification
- Chunk it into manageable components
- Work out their interactions
- Work out what each chunk must do
- Iteratively move down and work on the next level of detail

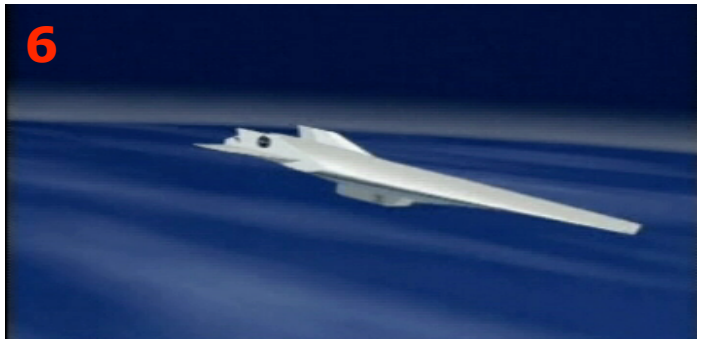
Product Design Issues

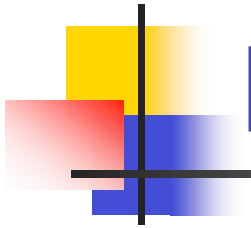
- Building blocks
- Layout, Structure
  - Screen positioning
- Interaction
  - Controls, Icons
  - Navigation
  - Feedback
- Clarity, Intuitiveness

Video Script - Example

- **[1]** Image of remote location people wish to visit
  - **Text:** *Wouldn't it be nice…*
- **[2]** Movie of people meeting in this location
  - **Text:** … *to finally meet? Without feeling tired…*
- **[3]** Movie of tired man looking into a mirror
  - **Text:** *… or having to wait around*
- **[4]** Movie of same tired man in an airport waiting lounge
  - **Audio:** *"Anything is possible, if you change your viewpoint"*
- **[5]** Movie which conveys travel through the night sky
- **[6]** Movie which shows the new aircraft
- **Manufacturer's logo**

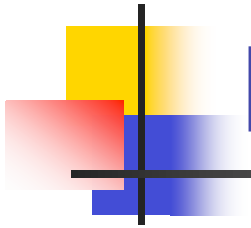
Video Story Board - Example





Nielsen's Usability Heuristics

- **Visibility of system status -** Always keep users informed about what is going on.
- **Match between system and the real world -** The system should speak the users' language.
- **User control and freedom -** Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave unwanted states.
- **Consistency and standards -** Follow platform conventions - for words, situations, actions.
- **Error prevention -** Design the system to prevent problems from occurring.



Nielsen's Usability Heuristics

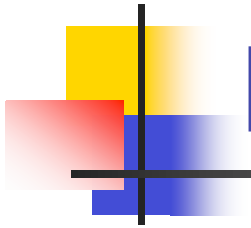
- **Recognition rather than recall -** Minimize the user's memory load - keep instructions accessible.
- **Flexibility and efficiency of use -** Accelerators that allow users to tailor frequent actions.
- **Aesthetic and minimalist design -** Avoid information which is irrelevant or rarely needed.
- **Help users recognize, diagnose, and recover from errors -** Have plain language error messages.
- **Help and documentation -** This should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

Stanford Guidelines for Web Credibility

- Make it easy to verify the accuracy of the information on your site.
- Show that there's a real organization behind your site.
- Highlight the expertise in your organization and in the content and services you provide.
- Show that honest and trustworthy people stand behind your site.
- Make it easy to contact you.

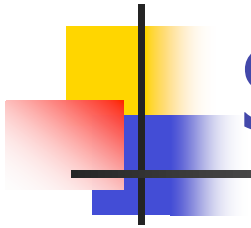
Stanford Guidelines for Web Credibility

- Design your site so it looks professional (or is appropriate for your purpose).
- Make your site easy to use -- and useful.
- Update your site's content often (at least show it's been reviewed recently).
- Use restraint with any promotional content (e.g., ads, offers).
- Avoid errors of all types, no matter how small they seem.



Designing a Production Plan

- Identify tools
- Identify tasks
  - Describe tasks
  - Map to resources
  - Map to timeline
- Generate list of tasks and Gantt chart
- See Lecture 6 on Project Management



Suggested Reading

- Design for New Media
  - Lon Barfield
  - Pearson, 2004
- Human Computer Interaction
  - Alan Dix, Janet Finlay, Gregory Abowd & Russell Beale
  - Prentice Hall, 2004