Special Issues in Designing Cyberspace

Design Issues

- Representation
- Designing Experience
- Scenario
- Levels of Abstraction
- Gesture and Meaning
- Scale and Gesture
Representation
  – Concept of movement
  – Spatial transitions
  – Gaming vs. current web

Designing Experience
  – Artistic intentions driving technological development
  – Movement found in dance and film
  – Cyberspace revealed through user actions
  – Designing transitions
• Scenario
  – Using space to represent and manipulate search results
  – Motion in navigation and organization

• Levels of Abstraction
  – Schematic diagram vs. rendered space
  – Same object represented at different levels
Gesture and Meaning
  – Computer: hand and mouse movement
  – Contextual meaning
    • Cave vs drawing program vs browser

Scale and Gesture
  – Moving an object vs moving around
  – User scale in environment
    • Assign motion to objects smaller than us
    • Perceive motion to objects larger than us
Architecture of Cyberspace
  – Provides reference point for motion and organization
  – Responds to demands for human use
  – Ritual associated with space
  – Social and cultural role

Challenging the Metaphor
  – Good metaphor, but...
  – Cyberspace easily changes
  – Users influence space
Designing Anthropic Cyberspace

- Spatial experience is a conscious choice and requires an investment of effort and resources

- Architecture built around certainties
  - Objects size and weight
  - Exist in only one location at a time
  - Known interactions with objects

- Cyberspace not constrained by these rules
  - Do objects have to occupy space
  - Design may be more like film
<table>
<thead>
<tr>
<th>Quality of Cyberspace</th>
<th>Description</th>
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<tbody>
<tr>
<td>Aesthetic</td>
<td>Appeals to sense of beauty/poetry</td>
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<tr>
<td>Spatial</td>
<td>Uses or refers to dimensional space</td>
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<tr>
<td>Participatory</td>
<td>Active participation of audience or user</td>
</tr>
<tr>
<td>Ambient</td>
<td>Environmental, Immersive</td>
</tr>
<tr>
<td>Presentational</td>
<td>Directed, aimed at specific audience</td>
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<tr>
<td>Multi-media</td>
<td>Uses more than one medium or mode</td>
</tr>
<tr>
<td>Functional</td>
<td>Serves purpose beyond expression</td>
</tr>
<tr>
<td>Expressive</td>
<td>Artistic, personal expression</td>
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<tr>
<td>Dynamic</td>
<td>Time-driven, movement</td>
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<tr>
<td>Active</td>
<td>Demands attention from audience/user</td>
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<tr>
<td>Passive</td>
<td>Serves as backdrop to audience/user</td>
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<tr>
<td>Cognitive</td>
<td>Uses symbols and abstraction</td>
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<tr>
<td>Perceivable</td>
<td>Apparent to bodily senses</td>
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<tr>
<td>Orientational</td>
<td>Helps situate or organize user</td>
</tr>
<tr>
<td>Interdisciplinary</td>
<td>Includes other disciplines in practice</td>
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</tbody>
</table>
Conclusions

– Designing cyberspace has similarities with several disciplines
– Choose those qualities that help develop the user experience
– Resist being trapped by the metaphor of any one discipline