Subjective Ranking of Dimensions of Clutter

For each of the pairs listed below, circle the scale title that represents the more important contributor to clutter in the display.

Redundancy or Colorfulness
Redundancy or Salience
Redundancy or Dynamics
Redundancy or Variability
Redundancy or Density
Colorfulness or Salience
Colorfulness or Dynamics
Colorfulness or Variability
Colorfulness or Density
Salience or Dynamics
Salience or Variability
Salience or Density
Dynamics or Variability
Dynamics or Density
Variability or Density
## Definitions of “Clutter” Descriptor Terms

<table>
<thead>
<tr>
<th>Redundancy</th>
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<tr>
<td>Orthogonal</td>
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</table>
| • Definition: Being mutually independent (relative to something else); composed of mutually exclusive elements; statistically independent.  
• Synonyms: Unique, exclusive, independent. |
| Redundant |
| • Definition: Exceeding what is necessary or normal; characterized by or containing an excess; characterized by similarity or repetition.  
• Synonyms: Repetitive, superfluous, inessential. |

<table>
<thead>
<tr>
<th>Colorfulness</th>
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<tr>
<td>Monochromatic</td>
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</table>
| • Definition: Having or consisting of only one color or hue; lacking variety, creativity, or excitement.  
• Synonyms: Colorless, neutral, plain. |
| Colorful |
| • Definition: Full of color; having striking colors; characterized by rich variety.  
• Synonyms: Vivid, vibrant, striking. |

<table>
<thead>
<tr>
<th>Salience</th>
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<td>Salient</td>
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</table>
| • Definition: Standing out conspicuously; of notable significance beyond its surroundings.  
• Synonyms: Prominent, striking, remarkable. |
| Not Salient |
| • Definition: Difficult to detect; imperceptible to the senses.  
• Synonyms: Inconspicuous, unnoticeable, subtle. |
# Dynamics

**Static**
- Definition: Having no motion; showing little change.
- Synonyms: Unmoving, stationary, fixed.

**Dynamic**
- Definition: Characterized by continuous change, activity, or progress.
- Synonyms: Active, driving, compelling.

# Variability

**Monotonous**
- Definition: Repetitiously dull or lacking in variety; tediously uniform or unvarying.
- Synonyms: Constant, boring, unvarying.

**Variable**
- Definition: Likely to vary; likely to change frequently, suddenly, or unexpectedly.
- Synonyms: Unstable, fluctuating, inconstant.

# Density

**Sparse**
- Definition: Thiny scattered or distributed; occurring at widely-spaced intervals.
- Synonyms: Thin, meager, distributed.

**Dense**
- Definition: Having component parts packed closely together.
- Synonyms: Thick, compact, concentrated.
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

| Orthogonal | Redundant |

Colorfulness

| Monochromatic | Colorful |

Salience

| Salient | Not Salient |

Dynamics

| Static | Dynamic |

Variability

| Monotonous | Variable |

Density

| Sparse | Dense |

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

| Low Clutter | High Clutter |

Do not write below this line. Experimenter use only.

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Orthogonal  Redundant

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Monochromatic  Colorful

**Salience**

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Static  Dynamic

**Variability**

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Monotonous  Variable

**Density**

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Sparse  Dense

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Low Clutter  High Clutter

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Pilot #: _____  Trial #: _____  Case #: _____  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

**Redundancy**

- Orthogonal
- Redundant

**Colorfulness**

- Monochromatic
- Colorful

**Salience**

- Salient
- Not Salient

**Dynamics**

- Static
- Dynamic

**Variability**

- Monotonous
- Variable

**Density**

- Sparse
- Dense

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

- Low Clutter
- High Clutter

Do not write below this line. Experimenter use only.

Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

**Redundancy**

<p>| | | | | | | | | | | | |</p>
<table>
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<tbody>
<tr>
<td>Orthogonal</td>
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**Colorfulness**

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</thead>
<tbody>
<tr>
<td>Monochromatic</td>
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**Salience**

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<tbody>
<tr>
<td>Salient</td>
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<td>Not Salient</td>
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**Dynamics**

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<tbody>
<tr>
<td>Static</td>
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**Variability**

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</tr>
</thead>
<tbody>
<tr>
<td>Monotonous</td>
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<td></td>
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<td>Variable</td>
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**Density**

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</tr>
</thead>
<tbody>
<tr>
<td>Sparse</td>
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<tr>
<td>Dense</td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Please rate your _overall perception_ of “clutter” for the current display by placing an “X” at the desired point on the scale below.

<p>| | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Low Clutter</td>
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<tr>
<td>High Clutter</td>
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</tr>
</tbody>
</table>

_Do not write below this line. Experimenter use only._

Pilot #: _____  Trial #: _____  Case #: ______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthogonal</td>
<td>Redundant</td>
<td></td>
</tr>
</tbody>
</table>

Colorfulness

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monochromatic</td>
<td>Colorful</td>
<td></td>
</tr>
</tbody>
</table>

Salience

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salient</td>
<td>Not Salient</td>
<td></td>
</tr>
</tbody>
</table>

Dynamics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Static</td>
<td>Dynamic</td>
<td></td>
</tr>
</tbody>
</table>

Variability

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monotonous</td>
<td>Variable</td>
<td></td>
</tr>
</tbody>
</table>

Density

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sparse</td>
<td>Dense</td>
<td></td>
</tr>
</tbody>
</table>

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Clutter</td>
<td>High Clutter</td>
<td></td>
</tr>
</tbody>
</table>

Do not write below this line. Experimenter use only.

Pilot #: _____  Trial #: _____  Case #: _____  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

| Orthogonal | Redundant |

Colorfulness

| Monochromatic | Colorful |

Salience

| Salient | Not Salient |

Dynamics

| Static | Dynamic |

Variability

| Monotonous | Variable |

Density

| Sparse | Dense |

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

| Low Clutter | High Clutter |

Do not write below this line. Experimenter use only.
Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

Orthogonal Redundant

Colorfulness

Monochromatic Colorful

Salience

Salient Not Salient

Dynamics

Static Dynamic

Variability

Monotonous Variable

Density

Sparse Dense

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

Low Clutter High Clutter

Do not write below this line. Experimenter use only.

Pilot #: _____ Trial #: _____ Case #: _______ Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthogonal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redundant</td>
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</tbody>
</table>

Colorfulness

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monochromatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorful</td>
<td></td>
<td></td>
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</tbody>
</table>

Salience

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
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</thead>
<tbody>
<tr>
<td>Salient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Salient</td>
<td></td>
<td></td>
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</tbody>
</table>

Dynamics

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Variability

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monotonous</td>
<td></td>
<td></td>
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<tr>
<td>Variable</td>
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</tbody>
</table>

Density

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
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</thead>
<tbody>
<tr>
<td>Sparse</td>
<td></td>
<td></td>
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<tr>
<td>Dense</td>
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</tbody>
</table>

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
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</thead>
<tbody>
<tr>
<td>Low Clutter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Clutter</td>
<td></td>
<td></td>
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</tbody>
</table>

Do not write below this line. Experimenter use only.

Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

- Orthogonal

- Redundant

Colorfulness

- Monochromatic

- Colorful

Salience

- Salient

- Not Salient

Dynamics

- Static

- Dynamic

Variability

- Monotonous

- Variable

Density

- Sparse

- Dense

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

- Low Clutter

- High Clutter

Do not write below this line. Experimenter use only.
Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

Orthogonal

Redundant

Colorfulness

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Salient

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Dynamics

Static

Dynamic

Variability

Monotonous

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Density

Sparse

Dense

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

Low Clutter

High Clutter

Do not write below this line. Experimenter use only.
Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

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Do not write below this line. Experimenter use only.

Pilot #: _____   Trial #: _____   Case #: _______   Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

Orthogonal | Redundant

Colorfulness

Monochromatic | Colorful

Salience

Salient | Not Salient

Dynamics

Static | Dynamic

Variability

Monotonous | Variable

Density

Sparse | Dense

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

Low Clutter | High Clutter

Do not write below this line. Experimenter use only.

Pilot #: _____  Trial #: _____  Case #: ________  Phase of flight: (descending, hovering)
### Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

#### Redundancy

<table>
<thead>
<tr>
<th>Redundant</th>
<th>Orthogonal</th>
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<tbody>
<tr>
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#### Colorfulness

<table>
<thead>
<tr>
<th>Colorful</th>
<th>Monochromatic</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

#### Salience

<table>
<thead>
<tr>
<th>Not Salient</th>
<th>Salient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

#### Dynamics

<table>
<thead>
<tr>
<th>Dynamic</th>
<th>Static</th>
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<tbody>
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<td></td>
<td></td>
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</table>

#### Variability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Monotonous</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

#### Density

<table>
<thead>
<tr>
<th>Dense</th>
<th>Sparse</th>
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</tbody>
</table>

Please rate your **overall perception** of “clutter” for the current display by placing an “X” at the desired point on the scale below.

<table>
<thead>
<tr>
<th>High Clutter</th>
<th>Low Clutter</th>
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<tbody>
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**Do not write below this line. Experimenter use only.**

Pilot #: _____  Trial #: _____  Case #: ________  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

<table>
<thead>
<tr>
<th>Redundancy</th>
<th>Orthogonal</th>
<th>Redundant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorfulness</td>
<td>Monochromatic</td>
<td>Colorful</td>
</tr>
<tr>
<td>Salience</td>
<td>Salient</td>
<td>Not Salient</td>
</tr>
<tr>
<td>Dynamics</td>
<td>Static</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Variability</td>
<td>Monotonous</td>
<td>Variable</td>
</tr>
<tr>
<td>Density</td>
<td>Sparse</td>
<td>Dense</td>
</tr>
</tbody>
</table>

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

<table>
<thead>
<tr>
<th>Low Clutter</th>
<th>High Clutter</th>
</tr>
</thead>
</table>

Do not write below this line. Experimenter use only.
Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

Orthogonal

Redundant

Colorfulness

Monochromatic

Colorful

Salience

Salient

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Dynamics

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Density

Sparse

Dense

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

Low Clutter

High Clutter

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Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
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</thead>
</table>

Colorfulness

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<thead>
<tr>
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<th>Colorful</th>
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Salience

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</tr>
</thead>
</table>

Dynamics

<table>
<thead>
<tr>
<th>Static</th>
<th>Dynamic</th>
</tr>
</thead>
</table>

Variability

<table>
<thead>
<tr>
<th>Monotonous</th>
<th>Variable</th>
</tr>
</thead>
</table>

Density

<table>
<thead>
<tr>
<th>Sparse</th>
<th>Dense</th>
</tr>
</thead>
</table>

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

<table>
<thead>
<tr>
<th>Low Clutter</th>
<th>High Clutter</th>
</tr>
</thead>
</table>

Do not write below this line. Experimenter use only.

Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ratings of Clutter Dimensions

Please place an “X” along each scale at the point that best indicates your experience with the display configuration.

Redundancy

Orthogonal  Redundant

Colorfulness

Monochromatic  Colorful

Salience

Salient  Not Salient

Dynamics

Static  Dynamic

Variability

Monotonous  Variable

Density

Sparse  Dense

Please rate your overall perception of “clutter” for the current display by placing an “X” at the desired point on the scale below.

Low Clutter  High Clutter

Do not write below this line. Experimenter use only.

Pilot #: _____  Trial #: _____  Case #: _______  Phase of flight: (descending, hovering)
Subjective Ranking of Dimensions of Clutter

For each of the pairs listed below, circle the scale title that represents the more important contributor to clutter in the display.

Redundancy or Colorfulness
Redundancy or Salience
Redundancy or Dynamics
Redundancy or Variability
Redundancy or Density
Colorfulness or Salience
Colorfulness or Dynamics
Colorfulness or Variability
Colorfulness or Density
Salience or Dynamics
Salience or Variability
Salience or Density
Dynamics or Variability
Dynamics or Density
Variability or Density