Reduce Complexity
| **Trimming Tool**

This reductive design method involves iteratively removing unnecessary elements from a design. It provides a structured approach to reducing complexity and helps produce a more elegant, streamlined final product, process, or organization.

WHEN

Use Trimming in the mid or late point of a design activity, as the initial design begins to emerge.

WHY

This process can:

- Bring clarity to an overly complex or cluttered system with too many features or components, unwieldy user experience, or lots of steps.
- Streamline a system that exceeds design thresholds (size, weight, power, cost, etc.).
- Remove unnecessary friction or complexities.
- Satisfy objectives of weight, size, cost, etc.
- Increase maintainability, usability, reliability, etc.

HOW

STEP 1: List all the pieces included in the current design.

STEP 2: Define a Stop Strategy. Three common Stop Strategies are:

- *Threshold strategy* – Stop trimming when the system has satisfied some threshold (size, weight, power, etc.).
- *Time-box strategy* – Stop trimming when a specified amount of time has passed.
- *Thorough strategy* – Check every single component.

STEP 3: Remove a piece from the list. Common strategies include:

- *Obviously extraneous* – Remove components that are clearly unnecessary.
- *Threshold busters* – Remove components that are most responsible for the system exceeding thresholds (e.g., remove the heaviest component if the system exceeds the weight threshold).
- *Speedy trim* – Remove any component that can be removed quickly, minimizing the amount of time spent on trimming.
- *Acceleration trim* – Remove any component whose removal will yield a substantially shorter project timeline.

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- *Random* – Randomly remove a component.
- *Obviously necessary* – Remove a component that appears essential to the system.

STEP 4: Test the system to determine if it works without a piece. If so, discard that piece. If not, replace the piece.

STEP 5: Repeat the process until the Stop Strategy applies.

Trimming Tool | Worksheet

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