

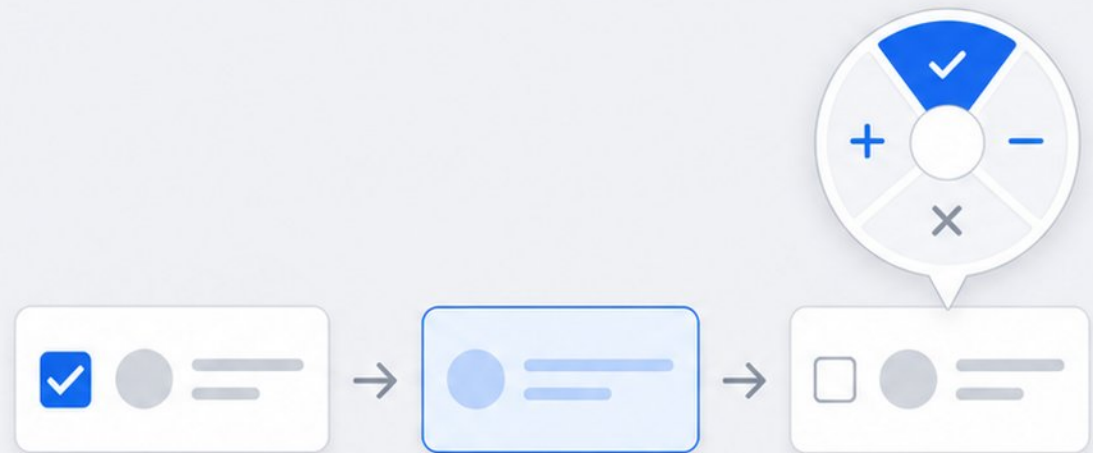
Introduction to Designing Multi-Select and Bulk Actions

- Enables users to safely select multiple items, understand selection scope, and perform batch operations
- Critical for efficiency in enterprise productivity, data management, and admin tools
- Solves pain points like repetitive work, errors, lost context, and accidental destructive actions
- Covers selection patterns, scope clarity, safety mechanisms, and feedback design for bulk operations



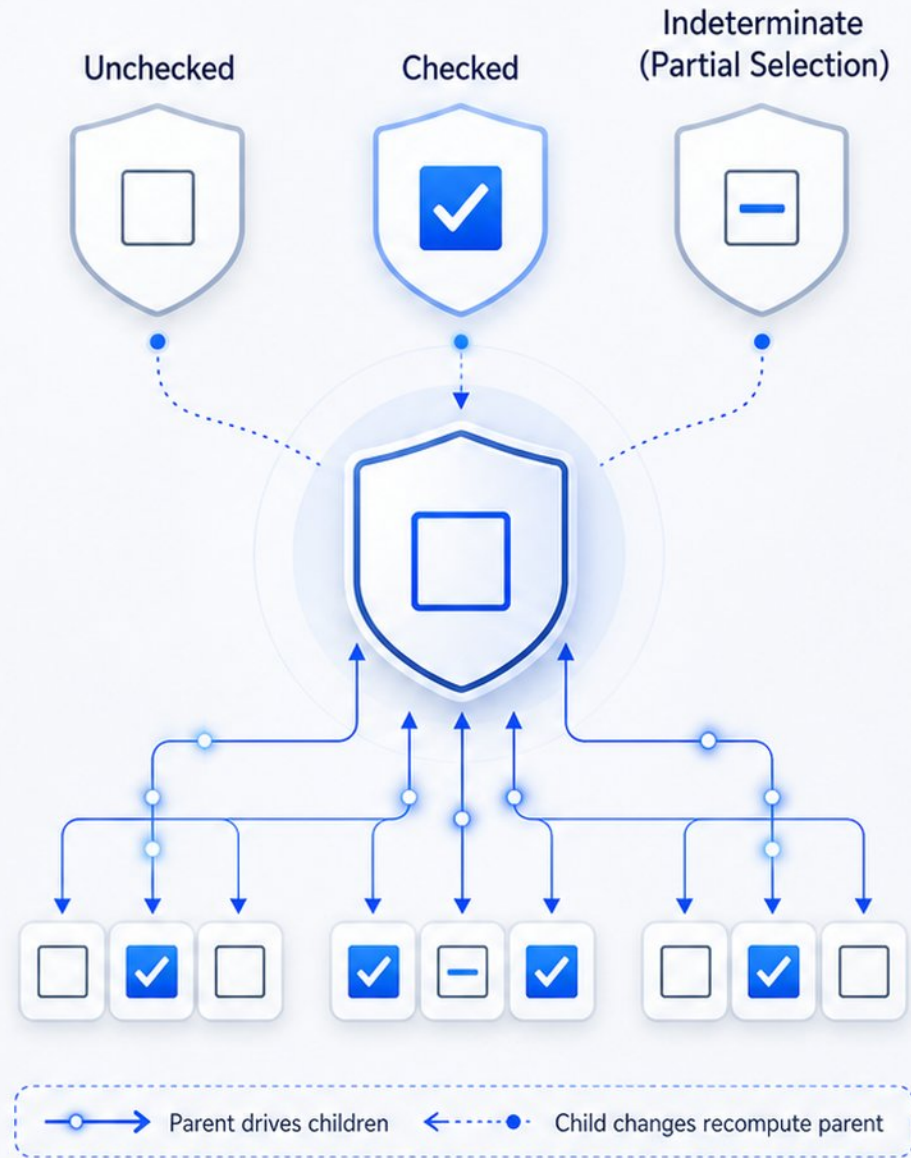
Selection Models and Entry Points

- Checkbox per row: visible, persistent, universal affordance for multi-select (prefer always-show over hover-only)
- Click-to-select with modifier keys: Ctrl/Cmd+Click for independent, Shift+Click for contiguous range
- Long-press enters selection mode on touch — subsequent taps toggle add/remove
- Three cardinalities: single-select (radio), multi-select (checkboxes), range-select (Shift+Click)
- Visual feedback: selected-row highlight, persistent count indicator, never rely on hover-only reveal



The Select-All Pattern and Indeterminate State

- 'Select All' header checkbox controls all row checkboxes in a group
- Three visual states: unchecked, checked, and indeterminate (partial selection)
- Indeterminate is computed from children — never stored as a domain value
- Bidirectional sync: parent drives children, each child change recomputes parent



Defining and Communicating Selection Scope

- Distinguish scope: current page vs. all pages vs. filtered dataset
- Use banners like "All 50 on this page selected. Select all 1,200."
- Handle pagination, sort, filter: persist by ID or warn before clearing
- Make "select all results" an explicit step with clear confirmation



Bulk Action Discovery and the Floating Toolbar

Floating toolbar appears when selection count > 0 , disappears at 0 — never hidden behind hover or right-click.

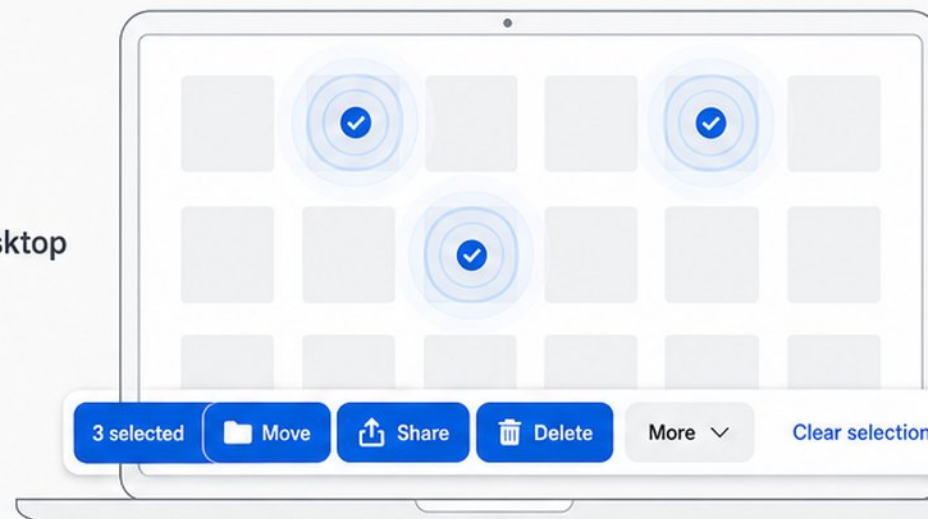
Position the bar near selected items: anchored bottom-of-viewport or sticky below the selection area.

Show max 3–4 inline primary actions; collapse secondary actions into a "More" menu.

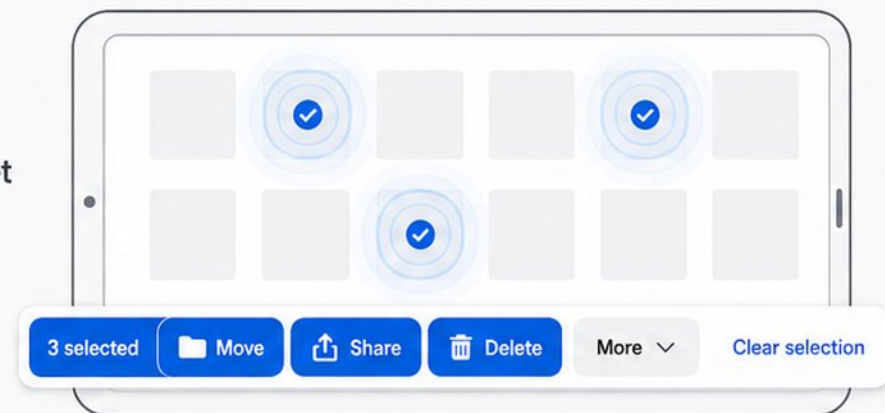
Always include a selection count label and a "Clear selection" affordance within the bar.

Keep the toolbar persistent during scroll; on mobile, hide secondary labels but preserve primary actions.

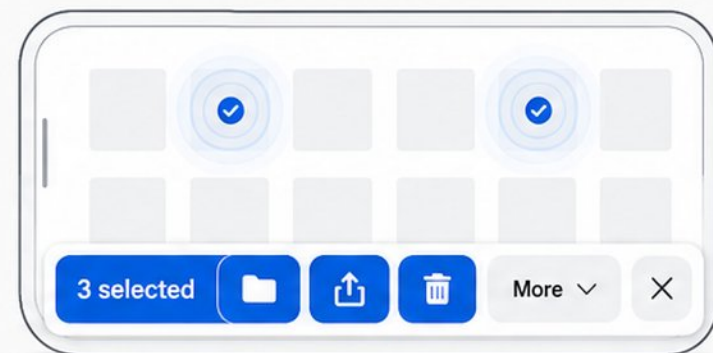
Desktop



Tablet



Mobile



Safety Mechanisms for Destructive Batch Operations



Match safety mechanism to risk: confirmation for irreversible, undo for reversible, soft delete for longer recovery



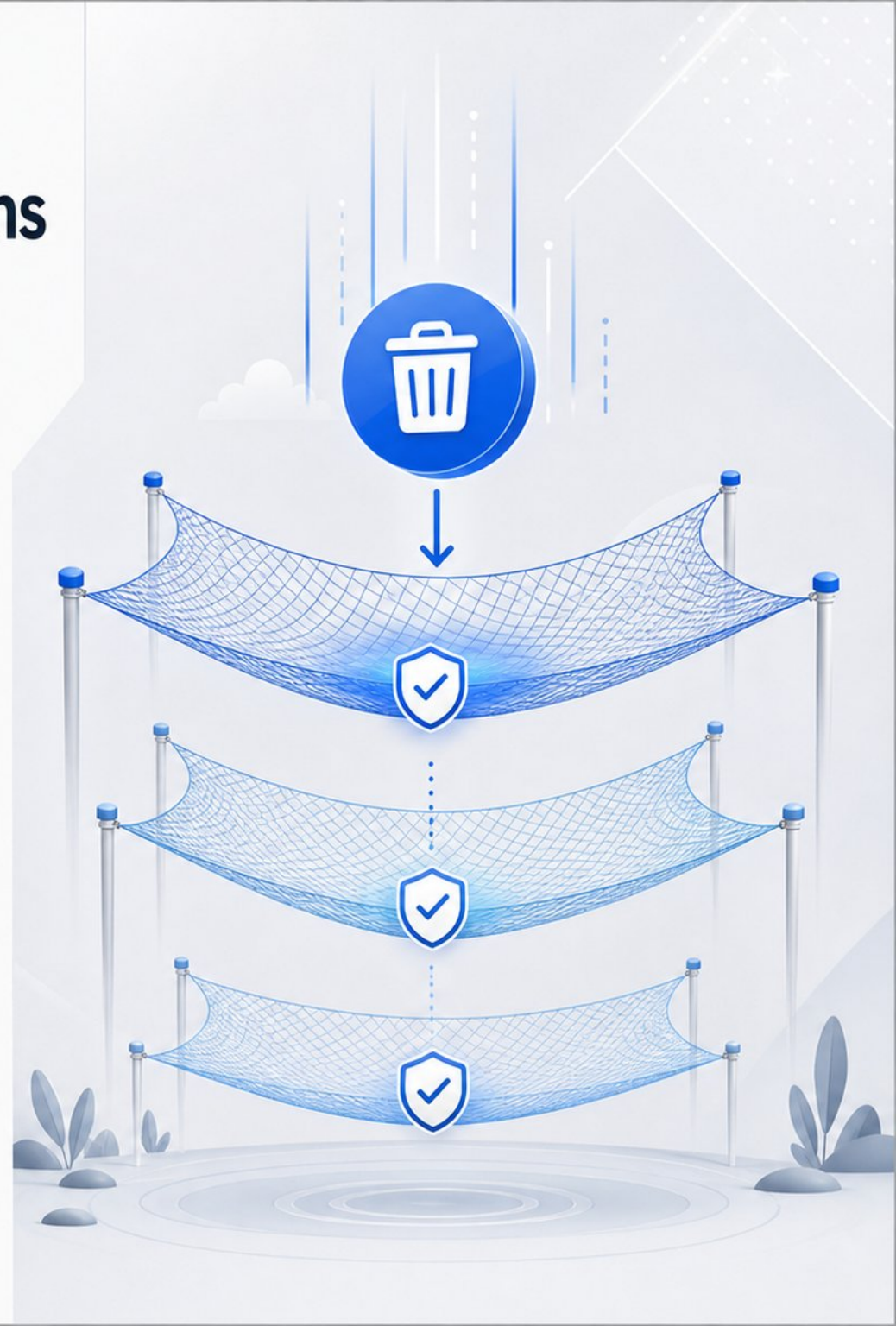
Effective dialogs: specific consequences, distinct destructive button, safe default focus, typed confirmation for severe cases



Undo toast: immediate execution with 5–10 second undo window in a non-intrusive snackbar



Soft delete: items recoverable from trash view for 7–30 days before permanent deletion

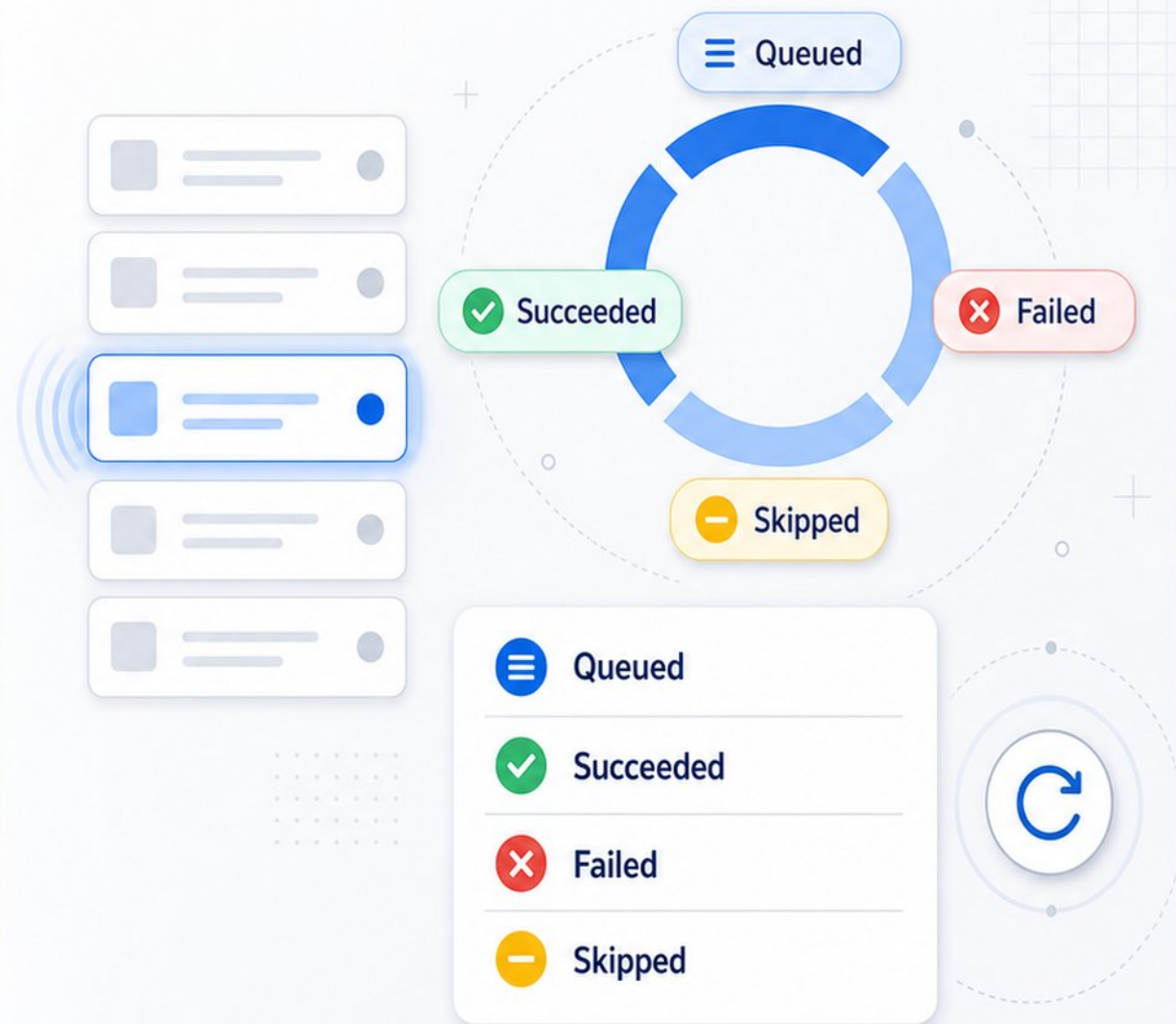


The Confirmation-Dialog Decision Framework



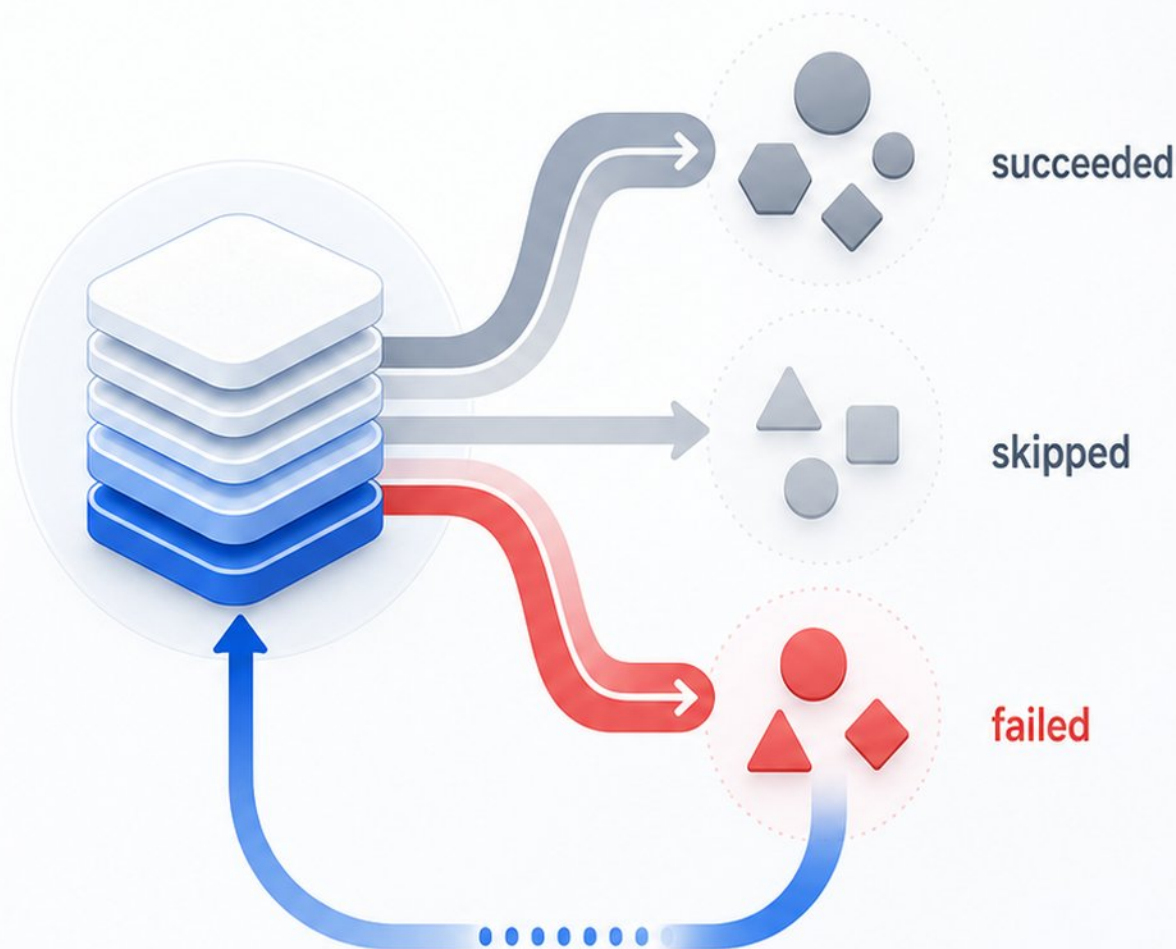
Feedback and Progress for Batch Execution

- - Rows pulse, toolbar updates, and pending state appears immediately after confirm
- - Determinate progress bar with queued count and estimated time remaining
- - Show exact counts: succeeded, failed, and skipped with actionable reasons
- - Large jobs run in the background; notify and allow return to retry failed items



Partial Failure and Recovery Flows

- Treat partial success as normal: clearly categorize succeeded, skipped, and failed items with short reason codes
- Make failures actionable with retry only failed, export failed IDs, or open a filtered error view
- Use selection as retry queue: succeeded items drop out, failed items stay selected with error markers
- Store pre-action snapshots for guided rollback flows with previews and clear recovery rules



Accessibility Requirements for Multi-Select



- **Full keyboard contract:** Tab into list, arrows to navigate, Space to toggle, Shift+Arrow to extend range, Ctrl+A to select all



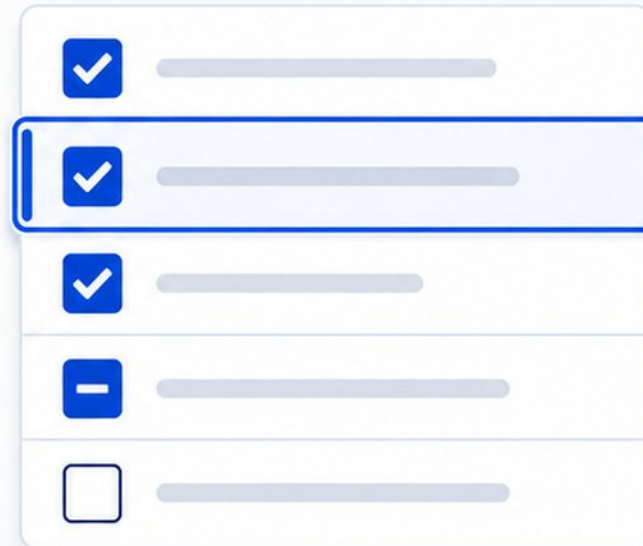
- Live region with `role='status'` announces selection count changes; aria-selected and indeterminate states clearly exposed



- After bulk delete, move focus to next item or container; never lose focus or reset to top of page



- WCAG 2.2 target size: checkboxes and buttons need minimum 24x24 CSS pixels (44x44 for AAA)



ARIA Implementation and Screen Reader Support

HTML

```
<fieldset>
  <legend>Select topics</legend>
  <ul>
    <li>
       <input type="checkbox" id="html" checked>
      <label for="html">HTML Basics</label>
    </li>
    <li>
       <input type="checkbox" id="css">
      <label for="css">CSS Fundamentals</label>
    </li>
    <li>
       <input type="checkbox" id="a11y" />
      <!-- Set via JS: document.getElementById('a11y').indeterminate = true: -->
      <label for="a11y">Accessibility (Partially Covered)</label>
    </li>
    <li>
       <input type="checkbox" id="ux">
      <label for="ux">UX Design</label>
    </li>
  </ul>
</fieldset>
```



- **Prefer native HTML checkboxes:** built-in keyboard, focus, and ARIA roles with no extra markup



- **Custom listboxes:** use role="listbox", aria-multiselectable="true", role="option", and roving tabindex



- **Indeterminate:** set via JS .indeterminate property (browser surfaces as aria-checked="mixed")



- **Live regions:** use role="status" on the selected-count container; remove aria-live when focus management alone suffices



Selected topics: 2 of 4 selected
role="status" (aria-live="polite")

Permissions, Eligibility, and Mixed-Item Selections



- Visually distinguish ineligible items or disable action with a clear explanation



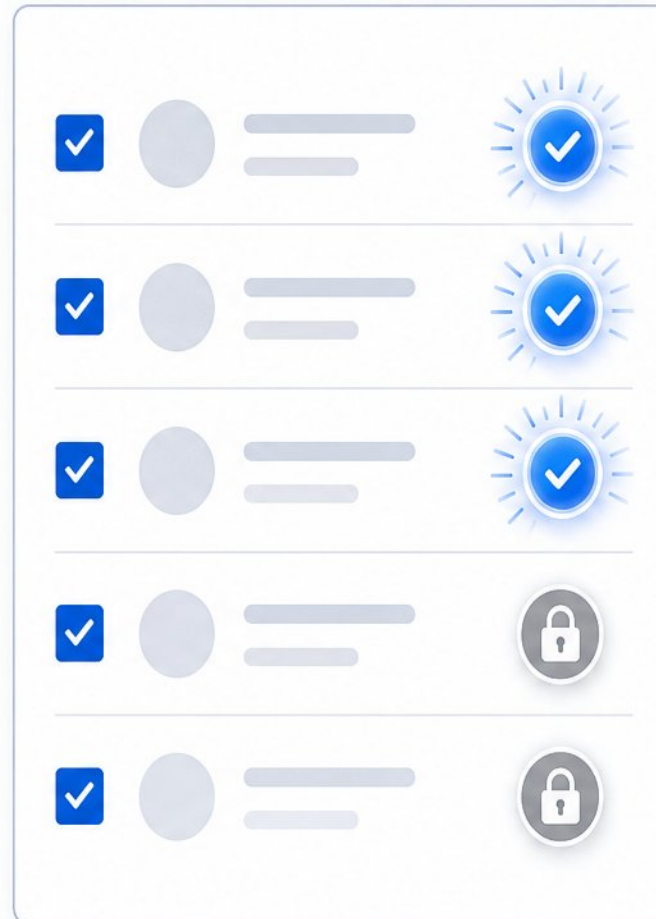
- Choose one honest rule: block action or apply only to eligible items & summarize skipped



- Show dry-run preview with counts, sample rows, and plain-language skip reasons

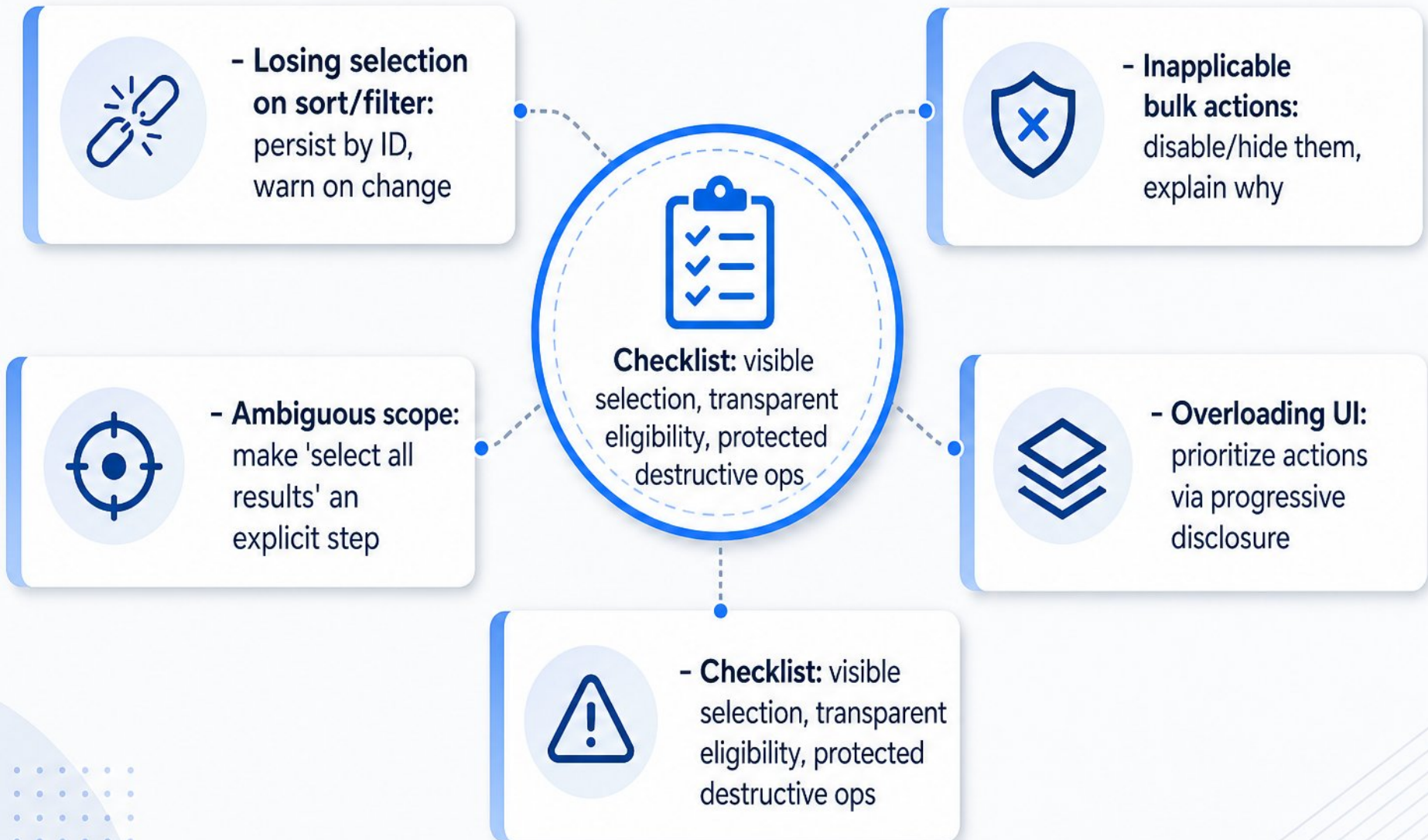


- Validate eligibility client-side for speed, enforce all rules server-side per record



Some selected items are ineligible for this action. Review the list for details and choose how to proceed.

Common Pitfalls and Design Heuristics



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