

HZ-V1-CH15_Library_Flows_Folders_Search_Sort_R1

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| Doc ID: | HZ-V1-CH15_Library_Flows_Folders_Search_Sort_R1 |
| Revision: | R1 (2026-01-02) |
| Status: | Draft |
| Depends on: | See: HZ-V1-CH02 (Constraints), HZ-V1-CH04 (Navigation), HZ-V1-CH08 (Entitlements), HZ-V1-CH16 (Flow Detail View), HZ-V1-CH18 (Inbox) |
| Related: | HZ-V1-CH05 (Screen Inventory), HZ-V1-CH17 (Sharing), HZ-V1-CH20 (Practice Setup), HZ-V1-CH25 (Paywalls), HZ-V1-CH30 (Warning Ladder), HZ-V1-CH31 (Error States) |
| Supersedes: | — |
| Owned Decisions: | Library IA, folder model (V1), flow-only search (V1), sorting options + persistence, manage-mode actions + routing rules, library plan-gating surfaces specific to library actions. |
| Open Questions / Placeholders: | See §14 (Placeholders Registry for CH15). |

Purpose: define the Library experience that organizes a user's saved flows (and folders) with zero guesswork: layouts, states, routing, sorting/search rules, and plan-gating behaviors.

Non-goal: implementing the flow editor itself (owned by CH12/CH13/CH14/CH16). This chapter only specifies how flows are listed, found, organized, and entered.

1. Library Concept & Mental Model

The Library is the user's durable collection of saved flows. It is the canonical place to:

- **Find** a flow quickly (search + sort).
- **Organize** flows into folders to reduce clutter.
- **Enter** a flow (view/edit) via Flow Detail (See: HZ-V1-CH16).
- **Start practice** on a saved flow (See: HZ-V1-CH20) and show practice-related metadata (last practiced, streak hooks, etc.).
- **Manage** flows (rename, duplicate, move, delete).

Imports are received in Inbox (See: HZ-V1-CH18). Inbox items are not part of Library until explicitly saved, and they may be gated by plan limits.

2. Plan-State Behaviors (Library-Specific)

Plan states are defined in HZ-V1-CH08. This section defines the Library's direct behavior by plan.

| | | | | | |
|------|-------------------|------------------------|----------------|---------|----------------|
| Plan | Can view Library? | Can create/save flows? | Saved flow cap | Folders | Practice entry |
|------|-------------------|------------------------|----------------|---------|----------------|

| | | | | | |
|-------------|------------------------------------|---------------------|--|---|--|
| GUEST | Yes (demo + temporary drafts only) | No (saving blocked) | 0 | View-only demo folders (optional) | Demo practice only (if provided) |
| FREE | Yes | Yes | 2 saved flows (hard cap) | Yes (no cap by default; see placeholders) | Practice allowed via credits only on saved flows (See CH20/CH25) |
| PRO / Trial | Yes | Yes | Unlimited (soft stability warnings only; See CH30) | Yes | Unlimited practice (See CH20/CH25) |

Hard-cap behaviors for FREE and saving behaviors for GUEST must use the global warning ladder. See: HZ-V1-CH30 §3.1 (Saved Flows).

3. Navigation & Route Inventory (Library-owned)

Route IDs must match HZ-V1-CH04. If CH04 differs, CH04 owns routing and must be updated. This chapter defines expected route names and parameters.

| Route ID | Screen Name | Params | Entry points | Exit / Back behavior |
|-----------------------|---------------------|---------------------------------|------------------------------------|---|
| tab.library | Library Home | none | Bottom tab | Back exits app only if root tab; otherwise returns to previous tab screen |
| library.folders | Folders List | none | Library Home → Folders | Back → Library Home |
| library.folder_detail | Folder Detail | folderId | Folders List; Move-to-folder flows | Back → Folders List (or previous) |
| library.search | Flow Search Results | query, scope(optional folderId) | Search bar submit | Back → previous list; clears query if leaving search screen |
| library.manage | Manage Mode | context: flows folder search | Edit/Manage button | Done returns to same context (selection cleared) |
| flow.detail | Flow Detail View | flowId | Tap a flow card | Owned by CH16 |

4. Library Home (tab.library)

Library Home is the default landing page for saved flows. It must work for users with 0 flows up through heavy users without feeling messy.

4.1 Layout (top-to-bottom)

- **Top bar:** Title “Library” (or app name in small), right-side overflow icon (■) for Library settings (optional).
- **Search bar:** Placeholder “Search flows”. Searching is flow-only in V1 (See: §9).
- **Primary CTA row:** “+ New Flow” button (primary) and “Folders” (secondary) OR a segmented control (Flows | Folders).
- **Sort control:** “Sort: Recent” (tap opens sort sheet). Default sort defined in §8.
- **Flow list:** scrollable list of flow cards.
- **Empty state:** if zero accessible flows, show empty state (See §6).

4.2 Flow Card (list item) — required fields

Each flow appears as a card/row with the following content and interactions:

- **Title** (required).
- **Subtitle line** (optional): last practiced date OR “Never practiced”.
- **Folder badge** (optional): folder name if assigned.
- **Small metadata chips** (optional, in order): “Gameplan” label (if flow is part of a gameplan), node count, tags count. (Node count and tags may be deferred; see placeholders.)
- **Overflow menu (...):** actions defined in §7.
- **Tap card:** opens Flow Detail (See: HZ-V1-CH16).
- **Long-press:** enters Manage Mode with this flow pre-selected (See §7.3).
- **Swipe actions** (optional but recommended): quick Delete + quick Move-to-folder (if enabled). If implemented, must respect plan gating and confirm destructive actions.

5. Folders

Folders exist in V1 (you confirmed). Their purpose is organization only; they do not change flow behavior.

5.1 Folder Model

- A folder contains a list of saved flow references.
- A flow belongs to **at most 1 folder** in V1 (simplest mental model). (If later changed to multi-folder, it becomes CH15_R2.)
- Deleting a folder **never deletes flows**. Flows become “Unfiled”.
- Folder order can be manually sorted (drag handles) OR default sort by name. Choose one; see placeholders.

5.2 Folders List (library.folders)

- **Top bar:** title “Folders”, back chevron to Library Home.
- **Primary CTA:** “+ New Folder”.
- **List:** folder rows show folder name + flow count.

- **Row actions:** tap opens Folder Detail; overflow menu includes Rename, Delete.
- **Empty state:** “No folders yet. Create one to organize flows.” + CTA create folder.

5.3 Create/Rename Folder — modal sheet

- Modal title: “New Folder” or “Rename Folder”.
- Field: “Folder name” (max length placeholder; see §14).
- Primary: “Save” (disabled until non-empty). Secondary: “Cancel”.
- Validation: trim whitespace; collapse multiple spaces; reject name that is only punctuation; allow emojis.
- If name duplicates an existing folder: allow but append “(2)” automatically OR block with message. Decide in placeholders.

5.4 Folder Detail (library.folder_detail)

Folder Detail is essentially the Flow list scoped to folderId, plus folder-level actions.

- **Top bar:** folder name + overflow (Rename, Delete).
- **Search bar:** optional. If enabled, search only within folder flows.
- **Sort control:** same options as Library Home (See §8), but stored per-folder (optional; see placeholders).
- **Flow list:** same Flow Card component.
- **Manage:** bulk select flows to remove from folder (not delete) or move to another folder.
- **Empty state:** “This folder is empty.” + CTA “Move flows here”.

6. Empty States (Library)

Empty states must be explicitly specified because they directly affect conversion and retention.

6.1 Empty Library (0 saved flows accessible)

- **Title:** “No flows yet.”
- **Body:** “Create your first flow to start planning your striking decisions.”
- **Primary CTA:** “+ New Flow”.
- **Secondary CTA:** “See Demo” (if demo flow exists) OR “Learn how it works” (routes to onboarding explainer; owned by CH01/CH03/CH31).
- **Guest variant:** include a subtle line: “Create an account to save flows.” and show “Create Account” CTA.

6.2 Free user at cap (2 flows) — library state

- Library still lists the 2 flows normally.
- The “+ New Flow” CTA remains visible but when tapped triggers hard-cap flow (See: HZ-V1-CH30 §3.1).
- Add a small non-blocking helper under the CTA: “Free plan: 2 saved flows.” (L0 info).
- If user deletes down to 1 flow, helper updates dynamically.

7. Actions, Menus, and Deterministic Routing

7.1 Library Home actions

- **+ New Flow:** routes to Flow Builder create flow. If saving is blocked by plan (Guest, or Free at cap), action must gate before creation or at first save attempt. Preferred: gate before creation to reduce wasted work. See: HZ-V1-CH08 gating rules + HZ-V1-CH30 §3.1.
- **Folders:** routes to library.folders.
- **Sort:** opens Sort Sheet (See §8).
- **Search:** routes to library.search with query.
- **Edit/Manage:** enters library.manage context=flows.

7.2 Flow Card overflow menu (...)

Menu content depends on plan and on flow properties. Menu must never show actions the user cannot complete (or must show them disabled with a clear reason). Choose one approach and keep consistent; default recommended: show disabled with reason.

| Action | Shown when | Tap behavior | Gating / Notes |
|----------------|----------------------------------|--|--|
| Open | Always | Route: flow.detail(flowId) | Owned by CH16 |
| Practice | Flow is saved + user has access | Route: practice.setup(flowId) | If FREE with 0 credits → paywall gate (See CH25). If GUEST → gate to create account or demo. |
| Share | Plan allows creating share links | Route: sharing.create (flowId) | Share limits enforced per day; See CH17 + CH30. |
| Duplicate | Always | Creates a copy and returns to Library with toast | Counts against flow cap. If FREE at cap, must hard-block with Manage/Upgrade paths. |
| Move to folder | Folders enabled | Open folder picker sheet | If no folders exist, show create-folder inline option. |
| Rename | Always | Rename modal (same as folder rename rules) | Title validation in §10. |
| Delete | Always | Confirm delete modal; then delete | Deletion is destructive. Provide Undo toast if feasible (optional). |

7.3 Manage Mode (bulk select)

- Enter Manage Mode via: top “Manage” button OR long-press a flow card.

- UI: top bar shows “Select” + count selected. Buttons: “Move” and “Delete”. Optional: “Remove from folder” (folder context).
- Selection: tap row toggles selection. Provide “Select all” only if list length <= 50 (placeholder).
- Exit: “Done” clears selection and returns to prior context view.
- Bulk Delete confirmation must show count (e.g., “Delete 3 flows?”).

8. Sorting

Sorting must be deterministic, stable, and consistent across Library Home and Folder Detail.

8.1 Sort Options (V1)

- **Recent** (default): order by updatedAt desc, then createdAt desc, then flowId tie-breaker.
- **Name**: A→Z by normalized title; tie-breaker createdAt desc.
- **Last Practiced**: lastPracticedAt desc; nulls at bottom; tie-breaker updatedAt desc.

8.2 Sort Sheet (bottom sheet UI)

- Title: “Sort flows”.
- Radio list: Recent / Name / Last practiced.
- Toggle (optional): Ascending/Descending (default depends on sort; Name default ascending; others default descending).
- Primary: none (select immediately applies). Secondary: “Close”.
- Persist sort choice in user settings. Where stored is owned by CH29 (data storage).

9. Search (Flow-only in V1)

Search must be fast, predictable, and not overload users with advanced filters in V1.

9.1 Search scope and matching rules

- Search returns **flows only**. It does not search moves, sequences, or notes in V1.
- Default scope: all saved flows user can access (including demo flows).
- Optional scope: within a folder (when invoked from Folder Detail).
- Matching: case-insensitive substring match on flow title after normalization.
- Normalization: trim, collapse whitespace, remove diacritics for matching (but display original).
- Ranking: shortest distance match first (prefix matches rank higher), then updatedAt desc tie-break.

9.2 Search UI behavior

- Typing in search field shows live results after 2+ characters OR on submit. Choose one and keep consistent; recommended: live after 2 chars with 150ms debounce.
- Empty query shows recent flows (same as default list) OR shows no results. Recommended: show recent flows.
- No results state: “No flows found for .” + CTA “Clear search”.
- Back from search returns to prior context and clears query.

10. Validation Rules (Titles, Names)

10.1 Flow title validation

- Flow title cannot be empty after trimming.
- Max length PLACEHOLDER (Owner: CH31 or CH29). Default: 60 characters.
- Allowed: letters, numbers, emojis, punctuation.
- Normalize for sorting/searching but preserve original for display.
- If title duplicates another flow title: allow (no uniqueness constraint).

10.2 Folder name validation

- Folder name cannot be empty after trimming.
- Max length PLACEHOLDER (Owner: CH31 or CH29). Default: 40 characters.
- Same normalization rules as flows.

11. Plan Gating & Warning Ladder Integration (Library context)

All gating must follow CH08 and the warning ladder in CH30. This section makes the Library-specific triggers explicit.

11.1 Guest: Saving flows is not allowed

- If GUEST taps “+ New Flow”: show blocking gate **before** entering builder: “Create an account to save flows.” Buttons: Create account / Not now.
- If GUEST somehow enters builder (demo) and attempts to Save: show same blocking gate (owned by CH30).
- GUEST library may show Demo flows and allow viewing them (Flow Detail view-only) if defined elsewhere. See placeholders §14.

11.2 Free: 2-flow cap enforcement points

- Triggers that must check cap: create new flow, duplicate flow, save imported inbox item to Library, save demo-as-copy, convert draft to saved flow.
- When cap reached and user triggers a save action: use CH30 hard block with resolution paths: Upgrade / Manage (delete) / Not now.
- If user chooses Manage: route to Library Home in Manage Mode with their flows listed and a helper text: “Delete one to save a new flow.”

11.3 Free: Inbox save attempt when at cap

- If FREE receives an inbox import and attempts “Save to Library” while already at 2 flows: show hard block: “Library full (2 flows on Free).”
- Provide choices: Upgrade / Manage Library / Cancel.
- Do not delete the inbox item automatically; it stays in Inbox until user removes it or upgrades. See: HZ-V1-CH18.

12. Accessibility & Performance Requirements (Library)

- All tap targets $\geq 44 \times 44$ pt.

- Support Dynamic Type: flow card title wraps to 2 lines; metadata collapses gracefully.
- VoiceOver labels: flow row announces title + last practiced + folder; overflow announces available actions.
- Avoid rendering heavy thumbnails in Library list. If showing thumbnails later, lazy-load and cache (Owner: CH29).
- Library lists must virtualize for performance at high counts (PRO).

13. Analytics Hooks (Library-owned events)

Event taxonomy is owned by CH33. This section defines the Library-specific events that must exist so other chapters can reference them.

- library_opened (tab.library) — includes planState, flowCount, folderCount.
- library_create_flow_tapped — includes planState, atCap(boolean).
- library_flow_opened — includes flowId, planState, source(list|search|folder).
- library_flow_menu_action — actionName(open|practice|share|duplicate|move|rename|delete).
- library_search_performed — queryLength, resultsCount, scope(all|folder).
- library_sort_changed — sortType, direction.
- library_manage_bulk_action — action(move|delete), countSelected.

14. Placeholder Registry (CH15-owned placeholders)

Anything not locked must be explicitly tracked. When decided, update CH00 and bump this chapter revision if it changes behavior.

- PLACEHOLDER: Demo_Flows_In_Library • Owner: CH15 • Options: A) 1 built-in demo flow shown to everyone (does not count against FREE cap) B) No demo flows in Library; demo is separate onboarding screen • Default: A • Decide-by: before first build sprint
- PLACEHOLDER: Folder_Order_Model • Owner: CH15 • Options: A) Manual drag-reorder B) Always sorted by Name A→Z • Default: B • Decide-by: before folder implementation
- PLACEHOLDER: Duplicate_Title_Rule • Owner: CH15 • Options: A) Append "(Copy)" B) Append "Copy 2/3..." C) Prompt user to name copy • Default: A • Decide-by: before duplicate feature
- PLACEHOLDER: Flow_Title_Max_Length • Owner: CH29/CH31 • Options: 50/60/80 chars • Default: 60 • Decide-by: before UI polish
- PLACEHOLDER: Folder_Name_Deduping • Owner: CH15 • Options: A) Allow duplicates B) Auto-append (2) C) Block duplicates • Default: B • Decide-by: before folder create
- PLACEHOLDER: Swipe_Actions • Owner: CH15 • Options: A) Enable swipe delete/move B) No swipe actions (menu only) • Default: A • Decide-by: before UI implementation

15. Acceptance Test Checklist (CH15)

- Library Home loads in <2s on cold start with 0 flows, 2 flows, and 100 flows (PRO test).
- Search returns correct results (case-insensitive, substring) and respects folder scope.
- Sort order matches spec for each sort type; persists across app restarts.
- Folder create/rename/delete works; deleting folder never deletes flows; flows become Unfiled.
- Move flow into folder and verify it appears in folder detail; remove from folder returns to Unfiled.
- Flow overflow actions route correctly to their destinations (Open → CH16, Practice → CH20, Share → CH17).
- FREE at 2-flow cap: + New Flow, Duplicate, and Save-from-Inbox all hard-block with correct resolution paths.
- GUEST: cannot save flows; attempting to create prompts account creation before builder; no local saving persists after app restart.
- Accessibility: VoiceOver reads flow rows correctly; all tap targets meet minimum; Dynamic Type doesn't clip critical text.
- Empty states appear with correct CTAs for: 0 flows, 0 folders, 0 search results, empty folder.

16. Replit Build Prompt (Implement CH15 only)

You are implementing CH15 only: Library (Flows/Folders/Search/Sort) for Handz V1. Bundle ID: HZ-V1.

Inputs: Attach CH00 + CH15. Treat CH04 routing + CH08 entitlements + CH30 warning ladder as dependencies.

Do NOT implement flow editing; just list and route to flow.detail when a flow is tapped.

Build steps:

- 1) Create routes: tab.library, library.folders, library.folder_detail, library.search, library.manage. Stub flow.detail route to existing screen or placeholder.
- 2) Implement data layer interfaces needed by Library:

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- listFlows(userId, scopeAll|folderId, sortType, query)
- createFolder, renameFolder, deleteFolder (non-destructive to flows)
- moveFlowToFolder(flowId, folderId|null)
- duplicateFlow(flowId) (copy metadata; title suffix per placeholder default)
- deleteFlow(flowId)
3) Implement Library Home UI per §4 with search bar, sort, new flow CTA, list of flow cards.
4) Implement gating checks:
- planState == GUEST => block save/create (show gate modal) before builder
- planState == FREE and savedFlowCount >= 2 => block create/duplicate/save-from-inbox with CH30 hard-block UI
5) Implement Folder screens per §5 and ensure deletion does not delete flows.
6) Implement Manage Mode per §7.3 with bulk move/delete.
7) Implement empty states per §6.
8) Add instrumentation stubs for §13 events (no analytics provider assumptions).

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Output: working Library screens with deterministic behavior matching CH15. If any assumption is required, write it into a PRD_ASSUMPTIONS block and stop that feature until confirmed.

17. Troubleshooting Notes (CH15)

- **Symptom:** FREE users can create 3rd flow via duplicate or save-from-inbox.
Check: gating checks must be applied to duplicate and inbox-save paths, not just + New Flow. See §11.2–11.3.
- **Symptom:** Deleting a folder deletes its flows.
Fix: folder deletion must only remove folderId references; flows must be reassigned to Unfiled. See §5.1.
- **Symptom:** Search returns inconsistent ordering.
Fix: apply ranking rules in §9.1 and then apply deterministic tie-breakers.
- **Symptom:** Library list janks with many flows.
Fix: use list virtualization, avoid heavy previews, and memoize list items. See §12.
- **Symptom:** Sort resets unexpectedly.
Fix: persist sort choice in user settings and load it on library open. See §8.2.