



Ranch Finder

User Guide & System Architecture

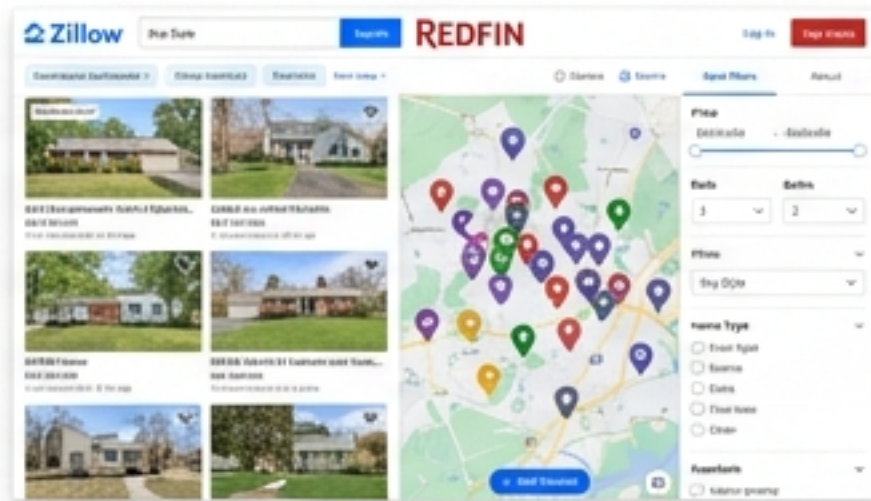
Private Edition

Session S006

ranches.johnzur.com

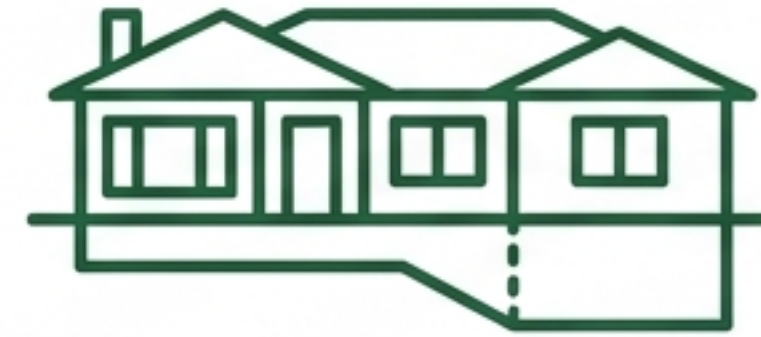
Standard real estate platforms fail at highly specific architectural searches.

The Status Quo: Zillow / Redfin



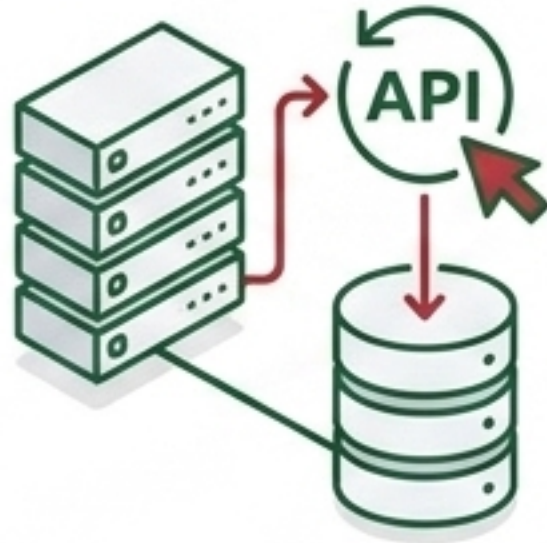
- ✗ Broad search designed for visual browsing
- ✗ Ranch styles inconsistently tagged; mislabeled as colonials or cape cods
- ✗ No dedicated filter for “has basement.”
- ✗ Impossible to reliably combine both criteria

The Ranch Finder Target



- ✓ Single-family ranch-style homes **WITH** basements
- ✓ Minimum 3 beds / 2 baths
- ✓ Maximum \$1,000,000
- ✓ 10-mile radius of Bridgewater, Somerset, and Cranford

Direct API queries and custom enrichment create a curated, verified dataset.



Extraction

Queries professional real estate APIs directly, bypassing consumer interfaces.

Deduplicates across sources (the same house from Redfin and Zillow appears once).



Enrichment

Validates properties against structured fields and natural language text.

Adds road classifications and ¼-mile highway proximity data.

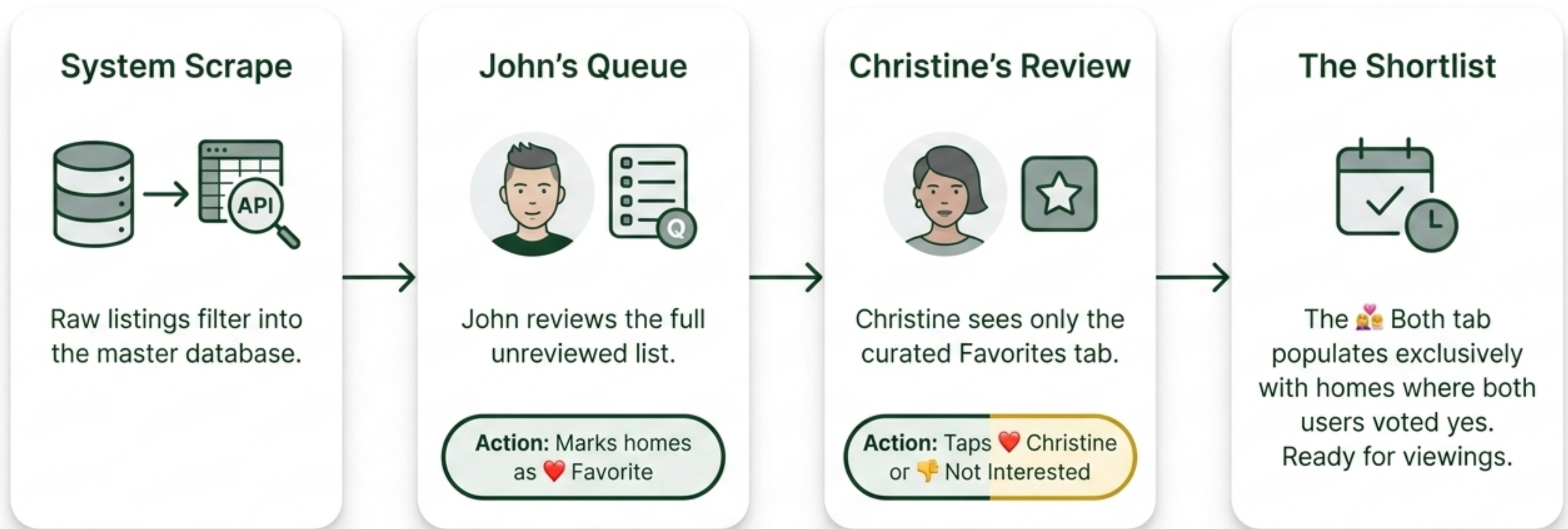


Presentation

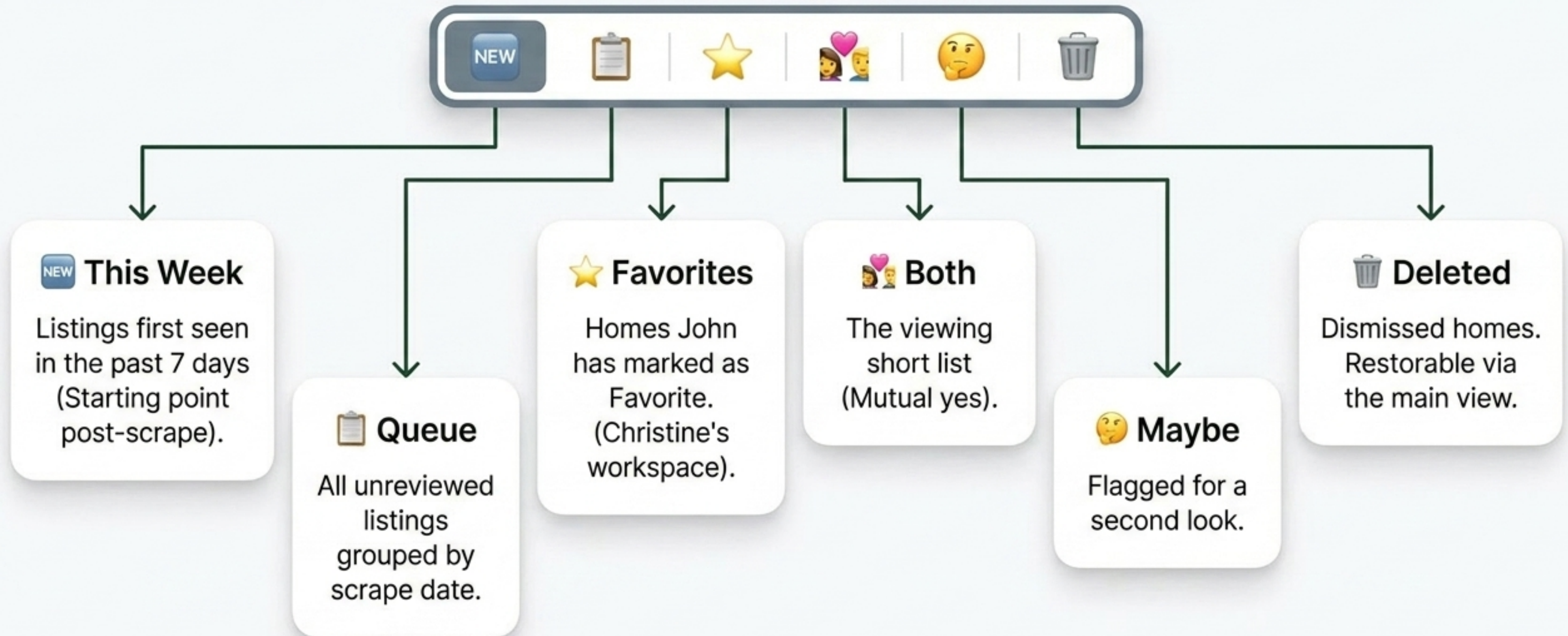
Delivered to a private web page updated weekly.

Persists review decisions (Favorite, Maybe, Delete) in real-time with zero account logins required.

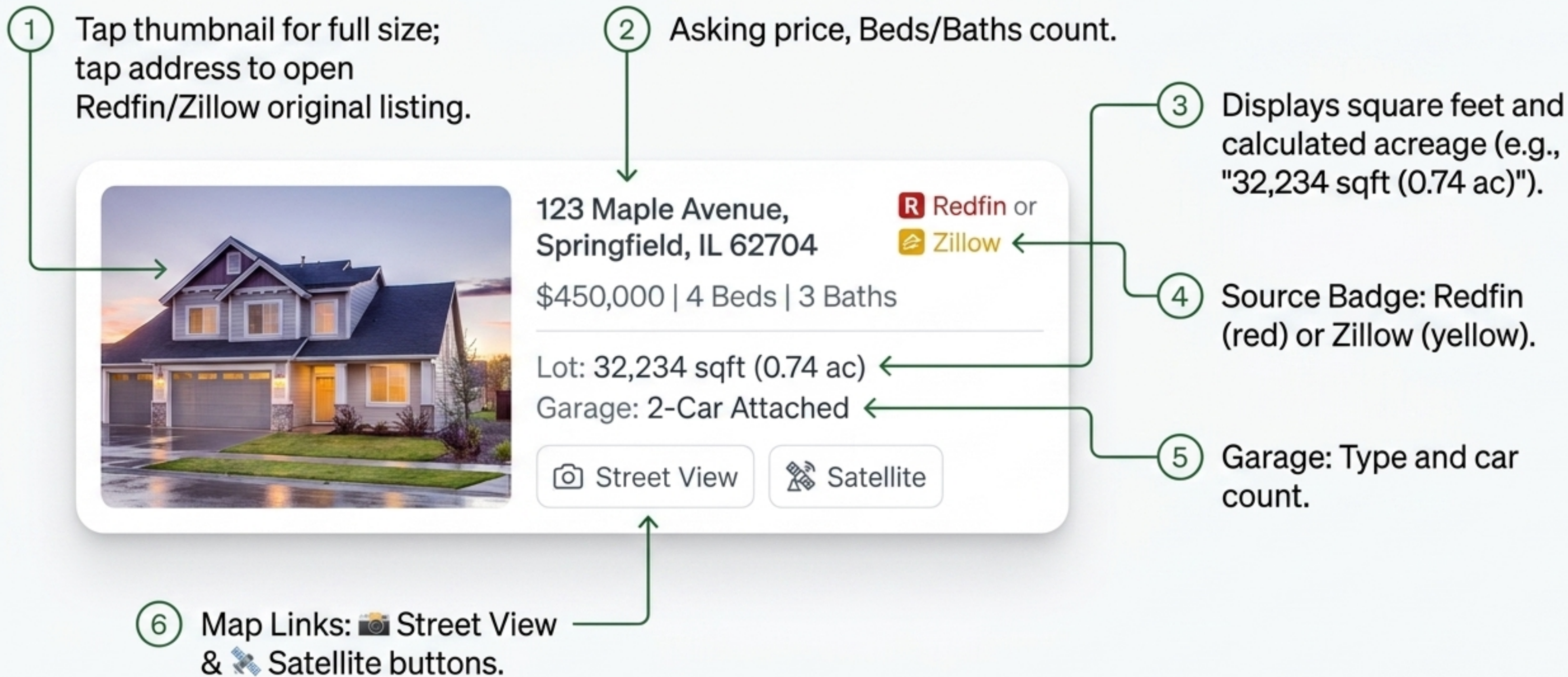
An asynchronous collaboration pipeline eliminates coordination friction.



The navigation tabs govern the lifecycle and state of every listing.



Every listing card presents a **dense, verified data payload**.



Proprietary enrichment classifies local road noise and validates basement status.

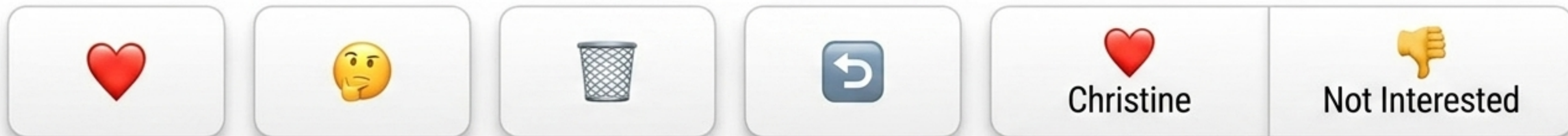
Basement Confidence

- ✅ **Confirmed** via structured API field.
- ⚠️ **Unconfirmed** (found only in description text—requires manual check).
- ❌ **Not found**.

Road Intelligence (Google Maps)

- 🏠 **Residential**: Low through-traffic. Ideal.
- 🟡 **Minor Through-Road**: Serves local areas.
- 🟠 **Secondary Road**: Moderate traffic volume.
- 🔴 **Primary Arterial**: Major road, expect noise.
- 🛣️ **Near Highway**: Highway within ¼ mile (displays exact distance and name).

State manipulation happens instantly via dedicated action buttons.



Saved ✓

User Actions

- ♥ **Favorite:** John's yes vote. Pushes to Christine's tab.
- 🤔 **Maybe:** Parks listing without committing.
- 🗑️ **Delete:** One-way dismissal to the Deleted tab.
- ↩️ **Restore:** Returns listing to Queue (Available in Deleted tab only).

Collaboration & Feedback

♥ **Christine** / 👎 **Not Interested:** Christine's mutually exclusive voting options on favorited listings.

📘 **Note:** All actions save instantly to GitHub.

Precision filtering enables dynamic sorting across all active tabs simultaneously.

Control Panel

Price

Min (\$)

Max (\$)

Format as whole dollars without symbols (e.g., 400000).
Min/Max limits.

Lot (acres)

Enter acres (e.g., 0.25)

Format as decimal (e.g., 0.25 = quarter acre, 1.0 = one acre).
App automatically converts from internal square footage.

Basement / Garage

☒ Confirmed ☐ Unconfirmed ☐ Not Found
☐ Has Garage ☐ No Garage

Checkbox toggles for ☒, ☐, ☐ or Has/No Garage.

Road Type

 Residential  Minor Through-Road
 Secondary Road  Primary Arterial

Combine any of the 4 road classes.

Near Highway

Any  Near ☒ Not Near

Strict binary dropdown (Any /  Near / ☒ Not Near). Partial matching disabled.

A zero-cost, serverless architecture powers the entire platform.



Stage 1: Computation & Scrape (GitHub Actions)

Triggers Python script, queries APIs, deduplicates, writes to JSON.



Stage 2: State Management & Proxy (Cloudflare Workers)

Acts as CORS proxy (ranches-proxy.johnzur.workers.dev). Handles GET/POST requests and patches fields.



Stage 3: Client Delivery (Browser)

index.html served via GitHub Pages. Renders cards client-side. Saves state instantly to GitHub API. No database or hosting bills.

The codebase is minimized to five core structural files.

 github.com/johnzur-droid/ranches



scrape.py

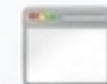
Main Python script for querying APIs, filtering, and writing state.



worker.js

Cloudflare proxy managing read/write operations and retries.



 **docs/index.html**

Shell HTML page rendering the live data.



docs/state.json

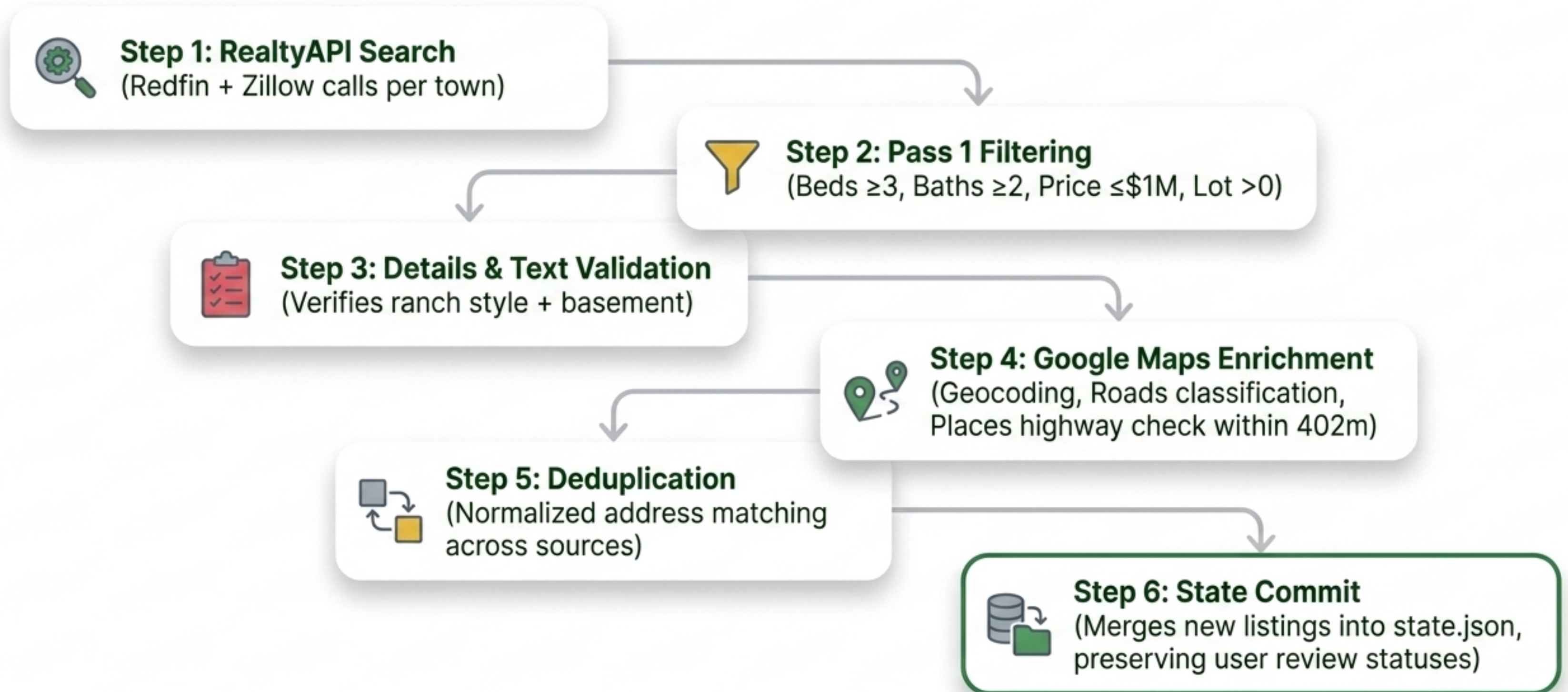
Single source of truth containing all 131 listings and enrichment data.



docs/CNAME

Maps GitHub Pages to ranches.johnzur.com via Netlify DNS.

The automated scrape run follows a rigid sequential pipeline.



Strict API budgets require careful credential and token management.

! PRIVATE

Server Block

RealtyAPI Limits

Currently ~34 calls remaining on key (rt_81nKenonyRN1BcEobSoN0D22). New key required before next run. Typical run consumes ~216 calls.

Server Block

Google Maps

Key (AlzaSyBeaCKQ_wC7zBiThr--xkcK4607pOGEDP4) enabled for Geocoding, Roads, and Places APIs. Typical run consumes 300-400 calls.

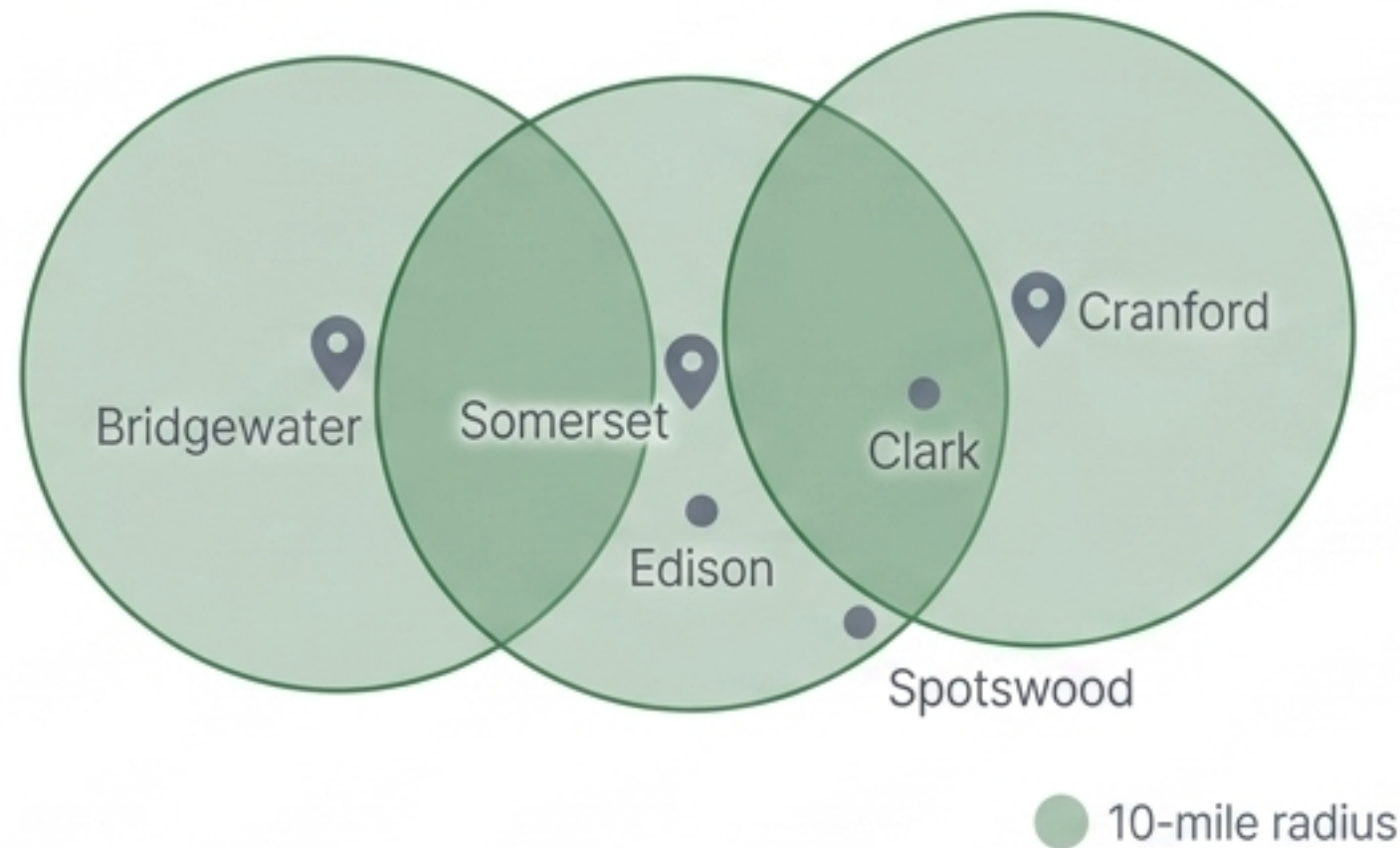
Server Block

GitHub & Cloudflare

PAT (ranches-deploy) requires Action write revocation (S006 open item). Worker Account (6f04c57b...)

Anticipated edge cases are handled organically by the system logic.

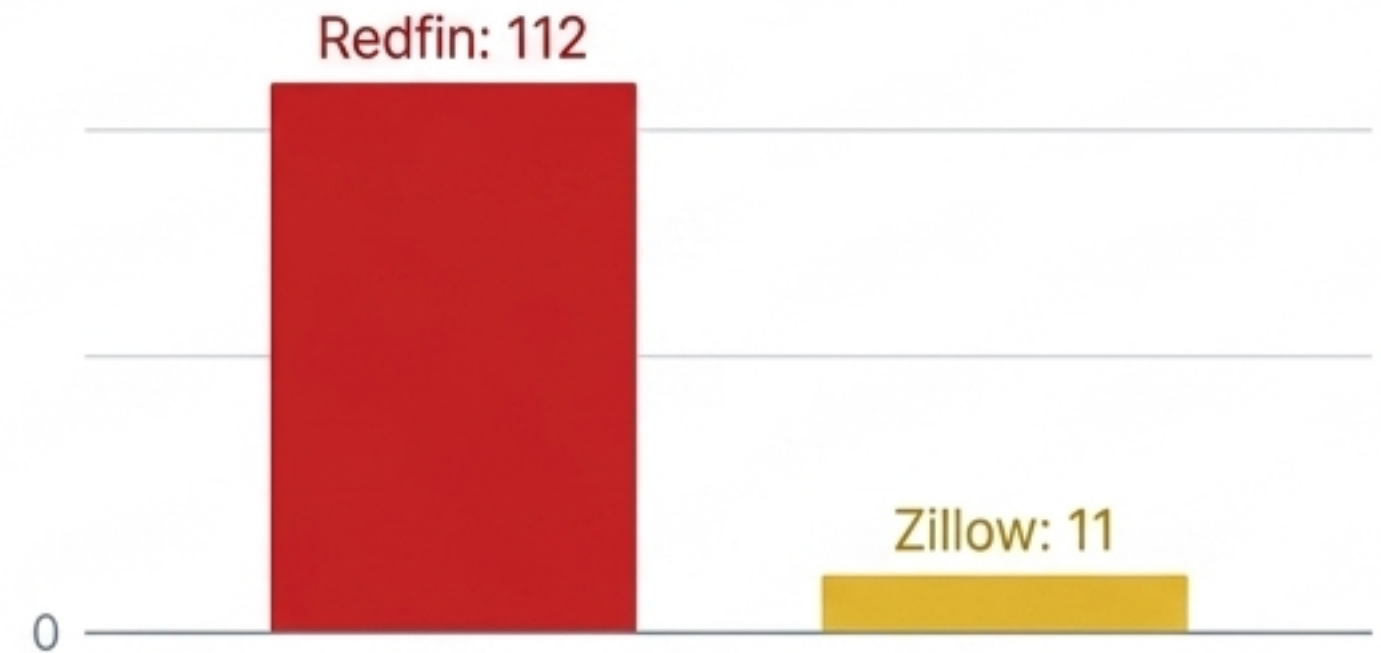
The Overlap Effect



Why Edison, Clark, and Spotswood appear.

Redfin uses a 10-mile radius coordinate search from Bridgewater/Somerset/Cranford, capturing verified matches in neighboring towns.

The Volume Gap



Redfin casts a wide radius net; Zillow searches strictly by explicitly listed city names.

Data Refresh

"New listings available" toast means scrape completed during session. SHA of state.json changed. Tap to refresh without losing scroll position.

Diagnostic matrices resolve common runtime errors and state conflicts.

 PROBLEM	 SOLUTION
 Save failed	 Tap again. Cloudflare Worker has a 3-retry loop with exponential backoff for simultaneous saves (409 conflicts). Check if proxy is reachable.
 Loading stuck	 JavaScript syntax error in index.html. Pull latest from repo and run <code>`node -e "new Function(script)"`</code> to locate.
 Filter button green, count unchanged	 Filters are ANDed. Selection combination yielded zero matches. Reset and apply one by one.
 Scrape failure	 RealtyAPI exhausted. Update <code>`REALTYAPI_KEY`</code> secret.
 Worker returns 502	 Worker cannot reach GitHub. Verify <code>`GITHUB_TOKEN`</code> PAT is valid.