MongoDB Inventory Audit – Human–Computer Interaction (HCI)

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# Overview

This document presents the HCI of the MongoDB Inventory Audit tool. The HCI is implemented as a Tkinter GUI in `a.py` (launched with `python a.py --gui`) and a richer GUI in `withgui.py`. It enables non-technical users to run audits without the CLI.

# What is HCI in this Context

HCI refers to the interface elements and workflows that let a human perform audit tasks via interactive controls rather than command-line input. The GUI provides clear controls, feedback, and error handling.

# User Workflow

* Connect: App shows MongoDB connection status and available collections.
* Configure: Select collection, set Sample Size and Threshold ($).
* Run Audit: Execute price testing; results appear in a table.
* Export: Save results to CSV.
* Cleanup: Optionally remove `extendedValue` fields from documents.

# Key UI Components

* Collection dropdown
* Sample Size spinbox (1–500)
* Threshold ($) spinbox
* Run Audit / Export CSV / Cleanup Extended Values buttons
* Results table with Item ID, Description, Price, Qty, Value
* Summary line showing item count and total sampled value

# Design Rationale

The GUI improves usability, reduces input errors, and standardizes audit steps. It supports consistent sampling and export for audit evidence.

# Screenshots

Replace the image paths below with your screenshots.

**Config Screen (Select collection, parameters)**

(Image not found: C:\path\to\screenshot\_config.png)

**Results Table (Audit output)**

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**Export Confirmation**

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# Optional Flow Diagram (Textual)

User → Select Collection → Set Parameters → Run Audit → View Results → Export CSV / Cleanup