Tool Window Usage Analysis: manual vs auto

Dataset: toolwindow_data.csv | events: 3503 | users: 205 | episodes: 1865 | censored episodes kept: 34

Assumptions & Cleaning:

- Standardized event_id to {open, close} and open_type to {manual, auto}.
- Consecutive opens policy: close_previous.
- Right-censored episodes retained for survival analysis.
- Cleaning: min_duration_ms=100, group-wise IQR with multiplier=3.0.
- Group comparison: Mann-Whitney U; Cliff's delta; bootstrap 95% CI for mean/median.
- Per-user analysis: per-user medians by user_id + Wilcoxon (if enabled).

Summary statistics

manual: n=560, mean=66.05s (95% CI [55.81,76.75]), median=8.59s (95% CI [7.21,11.02]), IQR=[1.81,55.18]
auto: n=982, mean=791.23s (95% CI [698.20,887.22]), median=157.54s (95% CI [133.80,185.81]), IQR=[31.64,791.75]
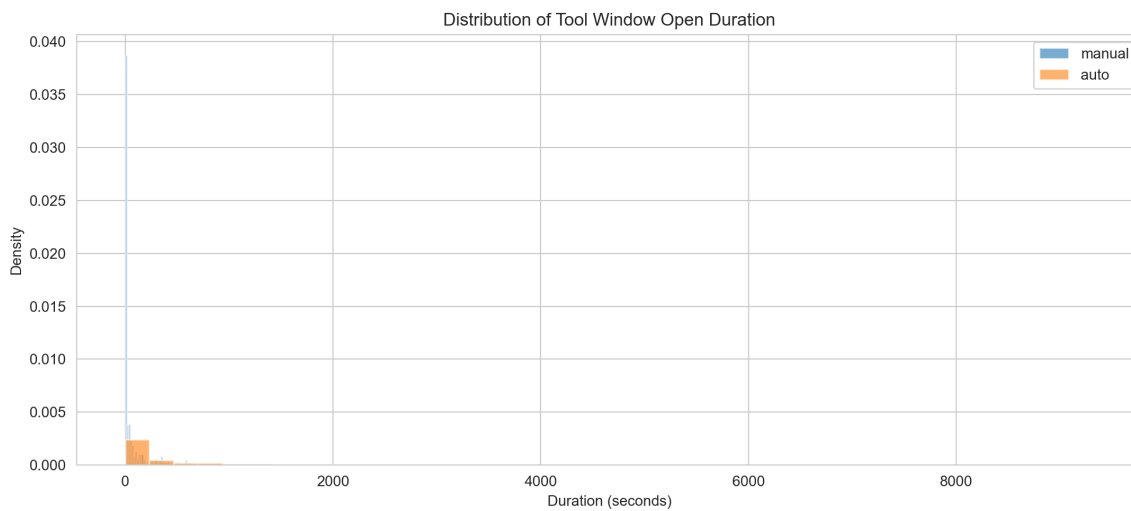
Statistical tests

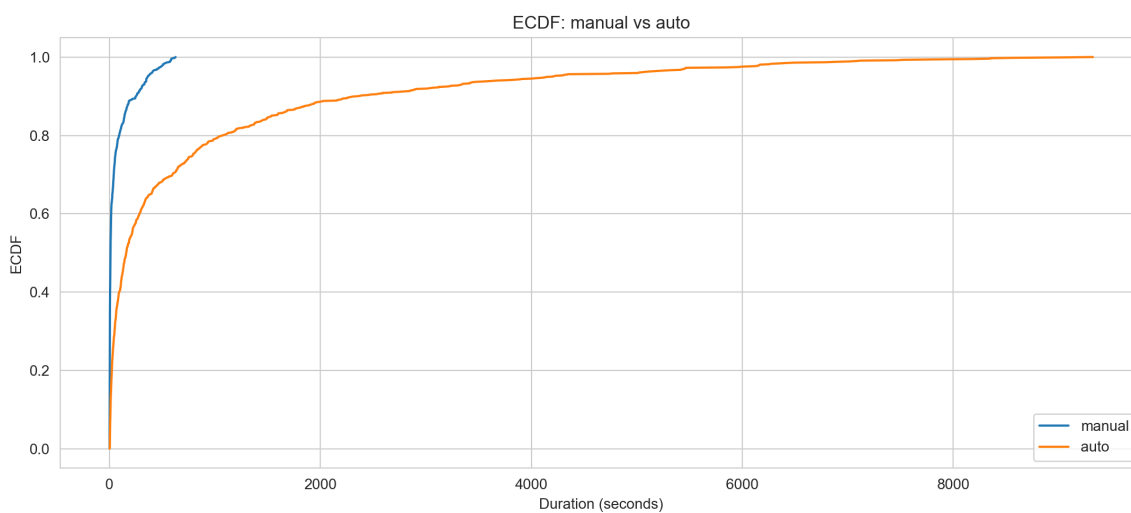Mann-Whitney U: U=105866.50, p=6.19521e-90
Cohen's d=-0.610, mean_diff=-725.18s
Cliff's delta=-0.615 (magnitude: large)
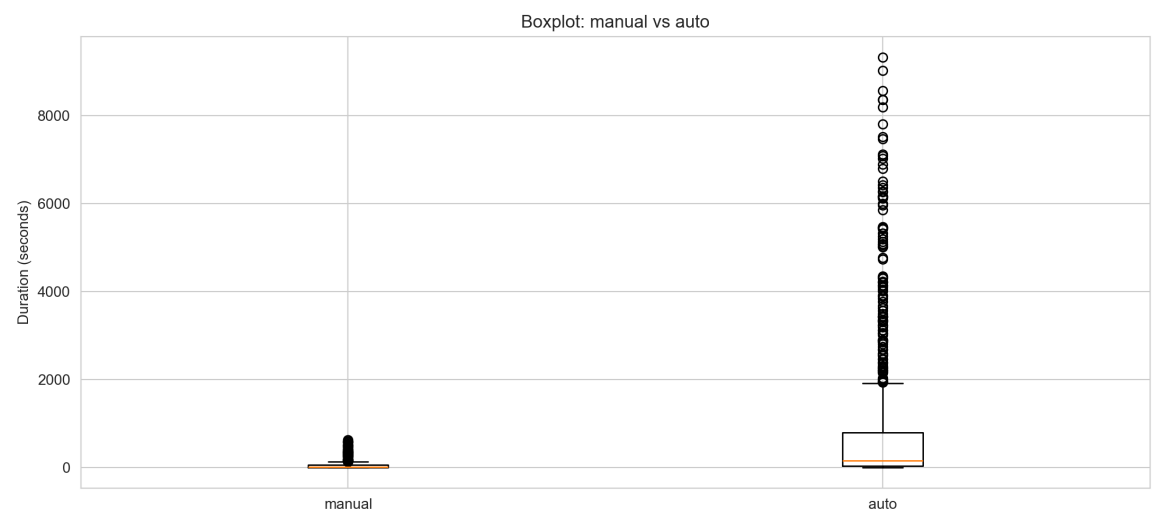Log-rank test: chi2=509.49, p=8.18938e-113

Histogram

ECDF

Boxplot

Boxplot: manual vs auto

Kaplan-Meier

Kaplan–Meier: manual vs auto