

FRONTIERS / REVIEW RECORD

The Civic Machine

Faculty-led changes, decisions and verification

Faculty recommendations take priority when learner preferences conflict. Compatible learner suggestions improve task clarity and organization while retaining demanding reading, independent causal reasoning and unfamiliar transfer. No website publication was requested or performed.

What changed

Construct two possible linked-response tables: For each pattern fill all four mutually exclusive cells for the original CM-06 hundred responders. Each pattern must total 100, with 80 statement approvers and 46 Green favorers. Make the patterns differ in their overlap. No original individual cross-tab is supplied. “Did not favor” includes opponents and undecided responders; “did not approve” is outside the endorsement group. The later hypothetical eleven-person fact belongs to the separate linked practice check and must not constrain these original-case constructions.

Your authority, cost and deadline ledger: Extract the obligations from CM-D01 to D06, then enter your own feasible service/process plan. Distinguish a power from a duty and a clerk ruling from a council public answer. Give relative working days where supplied; where a deadline is absent write “not specified” and distinguish your proposal. Annual service and one-time process euros use separate ceilings. Explain the sums and selected activities; a deferral hearing draws on the same process allowance.

Define your Alder test after the archive: Reuse your saved mechanism/rival notes to design a new investigation after AC-05. Enter exact contrasted instructions and specify objective, length/format and display/condition-retention features. Either change one feature with others fixed, separate crossed factors, or name an instruction-package effect. These are your planned tests, not observed results. Both research conditions must preserve usable nomination and challenge rights; the board still decides under its eligibility rule and budget.

Seven evidence checks include fresh representation practice. Selected checks require a submitted rationale before explanatory feedback. Original artwork, source facts, difficult readings, political alternatives and prior histories remain. Six distinct human-review criteria avoid double scoring; blank planning frames and learner-controlled note reuse support the work without filling in an answer.

Instructor controls and saved work

Code5907 and the existing advanced controls remain. Four added switches independently assign workspaces, written justifications, graph checks and note reuse. The complete set includes the updated backend, source and tests. Schema6 records retain cells, submitted rationales, copy provenance and help openings. Earlier saves are archived intact; revised work requires new submissions.

Verification and limits

The original application JavaScript was executed in a minimal event/API VM with adversarial fixtures. Static rendered markup was checked separately. The backend was tested on an isolated localhost service. These checks do not establish native-browser layout, mobile behavior, keyboard usability, live hosted deployment, classroom timing or learning gains. Writing is recorded for a person to assess; fluency and completion are not semantic mastery.

Engine test record

Method: Actual scripts in the supplied minimal event/API VM; not native-browser, accessibility, backend, semantic-mastery or learning validation.

Fixture boundary: Original S1 authored route responses plus clearly labelled mechanically valid new cells. Passing recording gates is not evidence of learning or answer quality.

Totals

Modules requested: 5

Assembled modules: 5

Tests: 283

Passed: 283

Failed: 0

Completed routes: 5

Correct option branches: 35

Wrong option branches: 105

Started at: 2026-10-13T17:40:00.742Z

Finished at: 2026-10-13T18:18:51.241Z

Tested file

Module: civic-machine

File: deliverables/Frontiers_The_Civic_Machine.html

Sha256: 85114defcde3f82e7fd382ac73794ef9af8fa38eee020cdcf9b01c071773d58d

Checks: 7

Module route

Module: civic-machine

Completed: Yes

Steps

Entry 1

Stage: 0

Ready: Yes

Entry 2**Stage:** 1**Ready:** Yes**Entry 3****Stage:** 2**Ready:** Yes**Entry 4****Stage:** 3**Ready:** Yes**Entry 5****Stage:** 4**Ready:** Yes**Objective count:** 7**Recording only:** Yes**Original fixture:** revision/evidence/responses/s1/civic-machine/response.json

Module passing tests: seven checks each expose one correct and three wrong options; choice comparison/a records wrong and selected feedback; choice comparison/b records correct and selected feedback; choice comparison/c records wrong and selected feedback; choice comparison/d records wrong and selected feedback; choice scope/a records wrong and selected feedback; choice scope/b records wrong and selected feedback; choice scope/c records wrong and selected feedback; choice scope/d records correct and selected feedback; choice transfer/a records correct and selected feedback; choice transfer/b records wrong and selected feedback; choice transfer/c records wrong and selected feedback; choice transfer/d records wrong and selected feedback; choice ruling/a records wrong and selected feedback; choice ruling/b records wrong and selected feedback; choice ruling/c records correct and selected feedback; choice ruling/d records wrong and selected feedback; choice data-read/a records wrong and selected feedback; choice data-read/b records wrong and selected feedback; choice data-read/c records correct and selected feedback; choice data-read/d records wrong and selected feedback; choice data-infer/a records correct and selected feedback; choice data-infer/b records wrong and selected feedback; choice data-infer/c records wrong and selected feedback; choice data-infer/d records wrong and selected feedback; choice data-design/a records wrong and selected feedback; choice data-design/b records wrong and selected feedback; choice data-design/c records wrong and selected feedback; choice data-design/d records correct and selected feedback; all seven correct and all twenty-one wrong branches exercised; justification gate comparison rejects empty numeric padding and repeated words before feedback; justification gate transfer rejects empty numeric padding and repeated words before feedback; justification gate ruling rejects empty numeric padding and repeated words before feedback; justification gate data-infer rejects empty numeric padding and repeated words before feedback; justification gate data-design rejects empty numeric padding and repeated words before feedback; numeric-only final reflection and data note are not accepted as prose; workspace civic-trace-and-rivals requires exactly declared row.fields with blank and invalid cells rejected; workspace civic-joint-tables requires exactly declared row.fields with blank and invalid cells rejected;

workspace civic-authority-cost-ledger requires exactly declared row.fields with blank and invalid cells rejected; workspace civic-procedure-design requires exactly declared row.fields with blank and invalid cells rejected; workspace civic-transfer-test requires exactly declared row.fields with blank and invalid cells rejected; joint tables accept two feasible zero-cell patterns and reject margins fractions overlaps and whitespace-as-zero; workspace JSON normalization trims numbers and rejects invalid number types and selection IDs; complete class route from original S1 notes plus new mechanical cells; unfilled Fun route finishes exploration without class completion and returns to missing class work; assignment flags keep workspace justification graph and data requirements separate; first-recorded wrong choice remains frozen and on-request feedback does not precede submission; own-note copies retain source snapshot provenance after source and copied field edits; text print and progress exports preserve cells rationales reflection provenance and exact representation; saved workspace exports survive earlier-task invalidation; schema6 complete roundtrip retains rationales workspaces frozen initial records and completion; schema5 migration preserves exact archived prose and submitted history without crediting v6 checks; preserved revised-run roundtrip retains prior complete schema6 history and familiar-evidence flag; save collision preserves both branches until explicit restore or keep; help and hint openings remain distinct from authored submitted histories on roundtrip; Fun to Class rationale supplement preserves selected choice original empty rationale and after-feedback provenance; workspace planning hints honor the saved instructor switch

Module failures: None

Static rendered markup test record

Method: Original application JavaScript executed by the supplied VM. Generated DOM strings merged into the original HTML shell and parsed using lxml. Checks IDs, form names/references, image alternatives, table headers, SVG coordinate bounds and late-record reveal guards. Synthetic fixture prose exercises recording gates only; no content mastery, real learner, browser, CSS layout or assistive-technology claim.

Module count: 5

Snapshot count: 85

Issue count: 0

Runtime error count: 0

Module record

ID: civic-machine

File: Frontiers_The_Civic_Machine.html

Sha256: 85114defcde3f82e7fd382ac73794ef9af8fa38eee020cdcf9b01c071773d58d

Build version: faculty-led-revision-v6

Complete synthetic fixture accepted: Yes

Snapshot count: 17

Issue count: 0

Current full-article access check

The earlier review roles did not establish access to every full article. This later check verifies 10 of the 10 main texts. The full Science PDF supplied by the user completed the Tessler main-text check on 13 October 2026. Supplement access is recorded separately; the uploaded main article does not contain the separate Science supplement. Current access cannot retroactively establish what earlier reviewers read.

Article

AI can help humans find common ground in democratic deliberation

Full main text verified

Yes

Version

2024 Science publisher version of record, supplied by the user on 13 October 2026; complete nine-page main article in an eleven-page PDF with summary and editor page.

Article	Persuading voters using human-artificial intelligence dialogues
Full main text verified	True
Version	Publisher version of record, December 2025, in an MIT-hosted PDF.

Full-text precision changes after the Science upload

The main article, five figures, captions and discussion were checked against the simulation. The central numerical results were confirmed. The following teaching anchors now make the research-design boundaries explicit. Original faculty-role critiques remain preserved in the separate full-review PDF.

Entry 1

Change: Distinguish the two selection levels

Location: papers[0].method

Reason: Predicted personal rankings select each HM output; actual participant rankings choose the displayed winner for critique.

Source: Printed pp. 1-2 and 8; Fig. 1.

Entry 2

Change: Bound the 56/44 human comparison

Location: papers[0].method and technical

Reason: The human-mediator task omits the critique phase. It does not estimate the effect of the whole iterative protocol.

Source: Printed pp. 2-3 and 8; Figs. 2A and 2C.

Entry 3

Change: Name the independent-rater null results

Location: papers[0].technical

Reason: Significant quality differences coexist with no detected differences on fair summary, minority inclusion or polarization. Failure to detect a difference is not proof of equivalence.

Source: Printed p. 3; Fig. 2B.

Entry 4

Change: Specify the assembly phase and scale

Location: papers[0].technical

Reason: The 200-person representative sample met in small groups without customary fact-finding or expert testimony; the study is not a complete institutional assembly evaluation.

Source: Printed pp. 5 and 7; Fig. 5.

Entry 5

Change: Name the sampling unit precisely

Location: papers[0].technical

Reason: Up to five discussants excludes the human mediator. The human comparison recruited six-person groups and assigned one member to the mediator role.

Source: Printed p. 2; Fig. 1.

Complete recommendation decisions

Every decision entry below records the feedback basis, implemented location or behavior, faculty-priority conflict decision and any concrete deferral. Module notes were prepared before shared integration; references to remaining root work are resolved by the verified current build above. The full metadata, original JSON ledger and raw tests are included in verification/.

Module decisions

Entry 1

ID: F-P1-I1

Source: p1/review.json · civic-machine problems[0]

Recommendation: Record preassignment preference; distinguish ex ante rule judgment from descriptive winner/loser comparisons; use comparable or assigned outcomes and disclose artificiality.

Status: implemented

Locations: workbenches.civic-procedure-design; revision.decision.fields.defense; investigation.frontier; teacherKey.decision_key.legitimacy_test

Behavior: Learner specifies assignment, preassignment preference, chosen/stipulated consequence, legitimacy item/timing and selection boundary. Binding studies preserve nomination rights.

Entry 2

ID: F-P1-I2

Source: p1/review.json · problems[1]

Recommendation: Require source/case-specific justification before feedback and plausible bounded distractors.

Status: implemented

Locations: checks.comparison; checks.transfer; checks.ruling

Behavior: These three choices require an authored ≥ 10 -word reason before explanation. Options keep the original correct IDs and target a specific source outcome, document step or audit feature; wrong feedback names the selected mistake.

Entry 3

ID: F-P1-I3

Source: p1/review.json · problems[2]

Recommendation: Organize a council memo and carry source notes into final synthesis instead of repeated copying.

Status: implemented

Locations: planningFrames · Your council memo; workbenches.civic-authority-cost-ledger; briefFields; briefRevisionPrompt

Behavior: Numbered action/cost, authority/right, objection, source and test components organize a connected argument. Final fields request deliberate note reuse plus a new consequence, revised inference and uncertainty; root's shared carry controls can operate without replacing authored notes.

Entry 4

ID: F-P2-I1

Source: p2/review.json · problems[0]

Recommendation: Two blank accessible 2x2 grids, margin consistency, different linked patterns and human review.

Status: implemented

Locations: workbenches.civic-joint-tables; dataWorkshop.reasonPrompt; reviewPrompts · Numerical and representation reasoning

Behavior: Eight blank nonnegative count cells form two disjoint four-cell tables. joint-tables checks each 100/80/46 margin and distinct overlap; prose explains differences and human assesses meaning. No case cells/range are prefilled.

Entry 5

ID: F-P2-I2

Source: p2/review.json · problems[1]

Recommendation: Equally bounded accounts disagree about first changed step; support with documents and a short trace before explanation.

Status: implemented

Locations: checks.ruling; checks.comparison; checks.scope; checks.transfer

Behavior: Ruling choices retain a contribution but disagree about CM-05 versus CM-08, missing-input causation or coverage; the required rationale requests dated IDs and exact words. Source and scope choices preserve useful error categories with precise selected-error feedback.

Entry 6

ID: F-P2-I3

Source: p2/review.json · problems[2]

Recommendation: Separate criterion, evidence, actor, tradeoff, comparison and rival predictions without supplying conclusions.

Status: implemented

Locations: planningFrames · Your council memo; workbenches.civic-authority-cost-ledger; workbenches.civic-procedure-design

Behavior: Labeled components and blank cards organize the same substantive demands; required prose joins them into a defended choice.

Entry 7**ID:** F-P2-Q**Source:** p2/review.json · quantitativeVerdict**Recommendation:** Add plotting/representation assessment beyond reading and calculation.**Status:** implemented**Locations:** graphPractice; checks.data-design**Behavior:** New explicitly fictional Rivermark counts use different channel bases; the student selects the axis/unit and values for a stated within-channel rate comparison, with an authored denominator rationale.**Entry 8****ID:** F-P2-ART**Source:** p2/review.json · designContentRelation**Recommendation:** Keep decorative art-chart marks separate from exact data.**Status:** implemented**Locations:** design.artCaption; revision.decision.records.CM-D06; coach · What can I infer from the poster?**Behavior:** Original art/identity are retained; caption and optional reflection state the marks are atmosphere. Exact access/powers mapping and quantitative work remain separately labeled.**Entry 9****ID:** F-P3-I1**Source:** p3/review.json · problems[0]**Recommendation:** Compact ledger for value/rule, duty/deadline, source contributions and rival design; require connected defense.**Status:** implemented**Locations:** workbenches.civic-authority-cost-ledger; workbenches.civic-procedure-design; planningFrames · Your council memo; revision.decision.fields**Behavior:** The ledger captures responsibilities and timing, the optional card captures study design and numbered components preserve values/source demands. Neither ledger completion nor word floor substitutes for a connected argument.**Entry 10****ID:** F-P3-I2**Source:** p3/review.json · problems[1]**Recommendation:** Blank same-step/same-outcome/accounts/differing-observation scaffold and unrelated compatible-versus-rival example.**Status:** implemented**Locations:** workbenches.civic-trace-and-rivals; investigation.core.orientation; firstQuestion

Behavior: Optional raw-stage scratchpad remains blank; a different museum example contrasts scheduling and missed-reminder causes of one absence with a compatible later event. The assessed core asks actor and operation for each account.

Entry 11

ID: F-P3-I3

Source: p3/review.json · problems[2]

Recommendation: Two different valid blank cross-tabs; teacher checks all margins separately from MC.

Status: implemented

Locations: workbenches.civic-joint-tables; dataWorkshop.reasonPrompt; teacherKey.human_review

Behavior: The original missing-link problem now produces validated tables and an interpreted explanation, independent of the hypothetical linked MC.

Entry 12

ID: F-P4-I1

Source: p4/review.json · problems[0]

Recommendation: Optional design card: assignment, menu, chosen route, preference, legitimacy and timing; remaining mediation/selection issue.

Status: implemented

Locations: workbenches.civic-procedure-design; revision.decision.fields.defense; teacherKey.decision_key.legitimacy_test

Behavior: The card captures all listed design elements, adds explicit preassignment preference and a rights/identification boundary, and distinguishes artificial fixed-outcome vignettes from lawful field comparisons.

Entry 13

ID: F-P4-I2

Source: p4/review.json · problems[1]

Recommendation: Blank authority/cost ledger and human review of missing political links rather than word-count completion.

Status: implemented

Locations: workbenches.civic-authority-cost-ledger; reviewPrompts · Lawful feasible decision and accountability; teacherKey.human_review.required

Behavior: Learner supplies responsible actors, duties, relative deadlines, annual euros and complete one-time process sum. Human checks access/rights/budgets and separate complaint ruling/public answer.

Entry 14

ID: F-P4-I3

Source: p4/review.json · problems[2]

Recommendation: Preserve original poster atmosphere; add exact labeled route/clinic schematic and powers legend.

Status: implemented

Locations: revision.decision.records.CM-D06; revision.decision.table.caption; design.artCaption

Behavior: A separately labeled access mapping and powers legend repeat exact dossier minutes and duties beside the full route/cost table. No geographic geometry or new estimate is invented; the map-like poster remains decorative.

Entry 15

ID: F-P5-I1

Source: p5/review.json · problems[0]

Recommendation: Visible criterion/tradeoff, source, discrimination/safeguard subparts and separate human dimensions.

Status: implemented

Locations: planningFrames · Your council memo; revision.decision.fields.defense; reviewPrompts

Behavior: The visible numbered plan retains all demands and requires joining them. Six nonduplicated review categories evaluate sources, trace, design, lawful choice, numbers and transfer.

Entry 16

ID: F-P5-I2

Source: p5/review.json · problems[1]

Recommendation: Optional empty cross-tabs with labeled approval/nonapproval and favor/nonfavor margins and consistency.

Status: conflict-resolved

Locations: workbenches.civic-joint-tables; dataWorkshop.reasonPrompt

Behavior: Cells are editable and blank; source margins are fixed at the authoritative 100/80/46. The generative table product is required in Class, with automatic arithmetic checks and human interpretation review.

Reason: P2/P3 faculty require inspectable constructed products, and the revision contract fixes joint-table margins. Letting students edit the source totals or making the required construction skippable would defeat those priorities; organizing help remains non-solution scaffolding.

Entry 17

ID: F-P5-I3

Source: p5/review.json · problems[2]

Recommendation: Replace experimental wording in scope hint with exact object, respondent and linkage guidance.

Status: implemented

Locations: checks.scope.hint; checks.scope.options; coach · How do I read a graph or table?

Behavior: Scope hint asks item, included base and linked people; wrong feedback explains the actual object, time-change, sample or overlap error instead of suggesting a nonexistent intervention.

Entry 18

ID: F-P5-Q

Source: p5/review.json · quantitativeVerdict

Recommendation: Unfamiliar, less-cued representation task rather than calculation beside a solved guide.

Status: conflict-resolved

Locations: graphPractice; checks.data-design

Behavior: The new library record assesses a rate/base/axis choice with plausible count and combined-base alternatives, without giving a worked calculation before submission.

Reason: The suggested unlabeled graph is adapted to a less-cued but fully labeled chart with an exact accessible table, as required by the shared contract. Removing units/provenance would make the assessment depend on guessing and accessibility loss.

Entry 19

ID: F-P5-ART

Source: p5/review.json · designContentRelation

Recommendation: Optional reflection on absence and agenda control in harmonious poster.

Status: implemented

Locations: coach · What can I infer from the poster?

Behavior: An optional art question considers what an image cannot establish about absent voices or power and directs assessed claims to actual records. Original artwork is unchanged.

Entry 20

ID: F-P1-S1

Source: p1/semantic.json · findings gap decision.defense

Recommendation: Define two nomination procedures, allocation/comparable outcomes and preassignment preferences; distinguish descriptive losers comparison from causal inference.

Status: implemented

Locations: workbenches.civic-procedure-design; revision.decision.fields.defense;
teacherKey.decision_key.legitimacy_test

Behavior: Two blank condition rows force actual variation to be named, with consequence determination, preassignment preference, measure/timing and selection boundary.

Entry 21**ID:** F-P1-S2**Source:** p1/semantic.json · findings gap investigation.revisedClaim**Recommendation:** Mark endorsement mechanism as consistent rather than identified; specify response-reason or controlled wording evidence separately from headline comprehension.**Status:** implemented**Locations:** investigation.core.revisionPrompt; investigation.core.challenge.question; teacherKey.artifact_key.same_step_rival; reviewPrompts · Positive finding and exact trace**Behavior:** Exact artifact trace can earn a positive finding without being treated as proof of individual reasons; a new person-level reason/interpretation record or defined controlled wording test addresses the remaining mechanism.**Entry 22****ID:** F-P2-S1**Source:** p2/semantic.json · weaknesses[0]**Recommendation:** Specify fixed/separately randomized decision, preassignment preferences, legitimacy outcome and limits from changed consequences.**Status:** implemented**Locations:** workbenches.civic-procedure-design; investigation.frontier.records; teacherKey.decision_key.legitimacy_test**Behavior:** The proposed study must state how the outcome is determined and acknowledge artificial fixed outcomes or remaining live-menu confounding; treatment-selected winners/losers are not automatically comparable.**Entry 23****ID:** F-P2-S2**Source:** p2/semantic.json · weaknesses[1]**Recommendation:** Common formatting constraint or objective-by-format factorial in transfer.**Status:** implemented**Locations:** workbenches.civic-transfer-test; revision.transfer.revisionFields.test; teacherKey.transfer_key.test**Behavior:** Exact contrasted instructions and held-comparable length/format/retention fields expose whether one feature changes, separate factors are crossed or only a package effect is identified.**Entry 24****ID:** F-P2-S3**Source:** p2/semantic.json · weaknesses[2]

Recommendation: Blank actor-power-deadline check distinguishes clerk decision from council public answer.

Status: implemented

Locations: workbenches.civic-authority-cost-ledger; revision.decision.records.CM-D06; teacherKey.decision_key.power_and_incentive

Behavior: Separate rows record clerk process ruling within three working days and council public answer before voting; relative scheduling and late complaints receive human review.

Entry 25

ID: F-P3-S1

Source: p3/semantic.json · concerns[0]

Recommendation: Actual varied treatment, defined outcome/group and comparable winning/losing consequences; confront changed menu threat.

Status: implemented

Locations: workbenches.civic-procedure-design; revision.decision.rubric; teacherKey.decision_key.legitimacy_test

Behavior: Same voting rules without nomination variation do not count as a nomination-effect test; the card requires procedure difference, outcome determination, preassignment preference and a design boundary.

Entry 26

ID: F-P3-S2

Source: p3/semantic.json · concerns[1]

Recommendation: Person-level discriminating observation and identity of people answering both items.

Status: implemented

Locations: investigation.core.revisionPrompt; planningFrames · Keep the causal account attached to a record; revision.transfer.initialFields.prediction

Behavior: A causal interpretation test must state the linked people and predicted interpretation/reason, rather than use marginal totals as proof of individual beliefs.

Entry 27

ID: F-P4-S1

Source: p4/semantic.json · limitations[0]

Recommendation: Redesign rights-denying binding study as nonbinding vignette or two lawful procedures; authority and identification statement.

Status: implemented

Locations: revision.decision.fields.defense; investigation.frontier.caseText; workbenches.civic-procedure-design; revision.transfer.revisionFields

Behavior: All proposed binding conditions preserve eligible nomination/correction/challenge rights. The optional restricted-menu contrast is explicitly nonbinding fiction; lawful field support procedures and artificial assigned-outcome scenarios are distinguished.

Entry 28

ID: F-P4-S2

Source: p4/semantic.json · limitations[1]

Recommendation: Name instruction-package estimand or separate objective and explicit retention/display factors.

Status: implemented

Locations: revision.transfer.revisionFields.test; workbenches.civic-transfer-test;
teacherKey.transfer_key.test

Behavior: Objective plus condition-retention instruction cannot be reported as a pure objective contrast; the learner defines a package effect or separate factors and predicts competing results.

Entry 29

ID: F-P4-S3

Source: p4/semantic.json · limitations[2]

Recommendation: One actor, operation and same-outcome causal link per initial rival; preserve saved imperfect initial answer.

Status: implemented

Locations: firstQuestion; investigation.core.question; workbenches.civic-trace-and-rivals;
revision.transfer.initialFields

Behavior: Prompts distinguish a text possibility from a process causing endorsement/omission. Existing initial account keys/history remain untouched and later explicit revision builds on them.

Entry 30

ID: F-P5-S1

Source: p5/semantic.json · limitations[0]

Recommendation: Unknown text recommendation is a property, not yet a causal rival.

Status: implemented

Locations: firstQuestion; investigation.core.question; teacherKey.artifact_key.same_step_rival

Behavior: The learner adds a proposed author/reader actor and operation for the same observed response, followed by differing predicted evidence; no supplied CM rival is preselected.

Entry 31

ID: F-P5-S2

Source: p5/semantic.json · limitations[1]

Recommendation: Define when winner/loser status is determined; fixed/independent outcomes or explicit limitation.

Status: implemented

Locations: workbenches.civic-procedure-design; investigation.frontier.records.followup; teacherKey.decision_key.legitimacy_test

Behavior: A method-only outcome/process card records preference before assignment and chosen outcome separately, names treatment-selected subgroup bias and requires causal versus descriptive boundaries.

Entry 32

ID: L-S1-1

Source: s1/review.json · terms and data suggestions

Recommendation: Local minority text definition and labeled blank linked table.

Status: implemented

Locations: papers[0].explanation; papers[0].technical; revision.glossary; workbenches.civic-joint-tables

Behavior: The definition describes model estimates of positions in text beside the research discussion; the two original-case tables start blank with all margins explicit.

Entry 33

ID: L-S1-2

Source: s1/review.json · confusingQuestions and writing burden

Recommendation: Number numerical demands; reuse earlier notes with explicit revision; memo checklist.

Status: implemented

Locations: planningFrames · Your numerical argument; dataWorkshop.reasonPrompt; planningFrames · Your council memo; briefFields; briefRevisionPrompt

Behavior: The numerical explanation points to tables without recopying eight counts; final source/decision notes request a new inferential consequence and marked revision.

Entry 34

ID: L-S1-3

Source: s1/review.json · supportNeededWithoutLoweringDemand

Recommendation: Optional organizing support without supplying overlap or preferred route.

Status: conflict-resolved

Locations: workbenches.civic-trace-and-rivals; workbenches.civic-procedure-design; workbenches.civic-joint-tables

Behavior: Optional scratchpads remain skippable; the required quantitative product is a blank validated table, not an optional substitute for the faculty-mandated construction.

Reason: Faculty priority and the contract require the two numerical constructions. No prefilled case cell, overlap range or chosen route is supplied.

Entry 35

ID: L-S2-1

Source: s2/review.json · confusingTerms

Recommendation: Minority text reminder; a rule-acceptance measure distinct from preferred outcome.

Status: implemented

Locations: papers[0].explanation; revision.glossary; workbenches.civic-procedure-design; coach · How can I study rule acceptance without confusing it with winning?

Behavior: Local text-position boundaries and an unrelated museum example distinguish schedule preference from rule acceptance; learner defines the exact acceptance item/scale/timing.

Entry 36

ID: L-S2-2

Source: s2/review.json · confusingQuestions and supportNeeded

Recommendation: Separate criterion, source, comparison/safeguard tasks; reuse source note with new decision consequence; retain cost/access table.

Status: implemented

Locations: planningFrames · Your council memo; revision.decision.fields; briefFields; revision.decision.table

Behavior: All demands and exact costs remain visible. The argument may deliberately reuse authored source cards while explaining why each detail now affects the choice.

Entry 37

ID: L-S2-3

Source: s2/review.json · MC and repetition

Recommendation: Less conspicuous distractors and reduced repetitive restatement without easier reading.

Status: implemented

Locations: checks; briefFields; briefRevisionPrompt

Behavior: Bounded option errors and selected-error feedback improve discrimination; source reconstruction, lawful tradeoff and transfer remain required, while final writing synthesizes/revises rather than recopies.

Entry 38

ID: L-S3-1

Source: s3/review.json · confusingTerms

Recommendation: Unrelated sentence-coding example for text weight, political non-measure example, and losing outcome/accepted rule example.

Status: implemented

Locations: papers[0].technical; papers[0].explanation; revision.sourceTasks.sourceA; revision.glossary

Behavior: Museum coding concerns text positions, not adoption power; a learner-generated textual and power example remains demanded. A separate schedule example distinguishes preference and rule judgment.

Entry 39

ID: L-S3-2

Source: s3/review.json · confusingQuestions and hints

Recommendation: Number council deliverables and tailor fixed-record guidance to item/date/population.

Status: implemented

Locations: planningFrames · Your council memo; checks.scope.hint; coach · How do I read a graph or table?

Behavior: The memo retains its separate substantive components; scope no longer asks for nonexistent randomized variation.

Entry 40

ID: L-S3-3

Source: s3/review.json · graphTableAssessment

Recommendation: Worked unrelated 2×2 example, without using case values.

Status: implemented

Locations: dataWorkshop.workedExample

Behavior: Two wholly invented museum tables use 12/8/5 margins; both are checked, leaving every transit table cell blank and no case overlap range supplied.

Entry 41

ID: L-S3-4

Source: s3/review.json · burden/supportNeeded

Recommendation: Evidence ledger, previous-note reuse and a pause after research.

Status: implemented

Locations: workbenches.civic-trace-and-rivals; briefFields; teaching.timingNote

Behavior: Optional scratchpad keeps exact ID/date, words, population and uncertain inference visible; explicit natural stopping points and deliberate reuse preserve sustained reading.

Entry 42**ID:** L-S4-1**Source:** s4/review.json · confusingTerms**Recommendation:** Local text/power reminder with learner examples; distinct outcome-preference and rule-acceptance responses.**Status:** implemented**Locations:** papers[0].explanation; revision.sourceTasks.sourceA; revision.glossary; workbenches.civic-procedure-design**Behavior:** The source task requests separate textual and political examples; the design card separates preassignment preference from a learner-defined acceptance item, scale and timing.**Entry 43****ID:** L-S4-2**Source:** s4/review.json · confusingQuestions and hintAssessment**Recommendation:** Six-demand visible memo checklist and exact item/date/population hints.**Status:** implemented**Locations:** planningFrames · Your council memo; checks.scope.hint; coach · How do I read a graph or table?**Behavior:** All criterion, alternative, source, comparison, rival and safeguard demands remain visible; fixed-record hints no longer imply an intervention.**Entry 44****ID:** L-S4-3**Source:** s4/review.json · burden/supportNeeded**Recommendation:** Persistent trace/prediction ledger and revised reuse rather than final duplicate prose; planned pauses.**Status:** implemented**Locations:** workbenches.civic-trace-and-rivals; briefFields; briefRevisionPrompt; teaching.timingNote**Behavior:** Authored observations and predictions can be carried and deliberately revised; final reflection must name an actual inferential update/new uncertainty. No invented human timing or gain claim is added.**Entry 45****ID:** L-S4-4**Source:** s4/review.json · artReaction**Recommendation:** Preserve distinctive art without treating Western-looking architecture or route marks as applicability/geographic evidence.**Status:** implemented

Locations: design.artCaption; coach · What can I infer from the poster?

Behavior: Artwork identity is unchanged; decorative civic setting and chart/map marks are explicitly separated from exact dossier facts and source applicability.

Entry 46

ID: L-S5-1

Source: s5/review.json · confusingTerms

Recommendation: Local minority-text definition rather than power label.

Status: implemented

Locations: papers[0].explanation; revision.glossary; papers[0].technical

Behavior: The measure is locally labeled a model estimate of positions in text, distinct from votes or decision/nominating power.

Entry 47

ID: L-S5-2

Source: s5/review.json · confusingQuestions/supportNeeded

Recommendation: Short visible council subprompts and mini-ledger distinguishing 100, later 200 and original/hypothetical facts.

Status: implemented

Locations: planningFrames · Your council memo; dataWorkshop.guide; workbenches.civic-trace-and-rivals

Behavior: A provenance guide keeps CM-06 hundred-person margins separate from the later 200-person dossier, hypothetical eleven-person assumption and separate library record. Exact source item wording remains in the data rows and dossier.

Entry 48

ID: L-S5-3

Source: s5/review.json · writing burden/supportNeeded

Recommendation: Explicit new job at each writing stage, pause after core revision and final reuse/revision.

Status: implemented

Locations: teaching.coreSteps; teaching.timingNote; briefFields; briefRevisionPrompt

Behavior: Stages explain reconstruction, trace, generative counts, decision, transfer and synthesis jobs. Final fields add a new consequence/improved design and explicit revision, instead of restarting from memory.

Entry 49

ID: L-S5-4

Source: s5/review.json · hintAssessment and MC

Recommendation: Improve choice discrimination while preserving method-only hints and hard open tasks.

Status: implemented

Locations: checks; workbenches.civic-joint-tables; reviewPrompts

Behavior: Wrong feedback is selected-error-specific, bounded distractors use actual objects/steps and designated rationales precede explanation. Open table, lawful choice and late transfer remain the main evidence of constructed reasoning.

Shared controls and backend decisions

Shared implementation decisions

Entry 1

ID: SHARED-SETTINGS-COMPATIBILITY

Sources: User preservation requirement; revision/REVISION_CONTRACT.md · required-work and representation switches

Recommendation: Add the new requirements while preserving every advanced5907 control and backward compatibility.

Status: implemented

Locations: advanced-controls.js · defaults/normalizeSettings/renderInstructor; server.js · settingDefaults/validateSettings/publicClass/config and course retrieval

Behavior: Four true defaults under the existing settings schema1; only new omissions default. Instructor exports/imports, local collision guards and server assignment revisions include the new switches. Strict old-key validation remains.

Entry 2

ID: SHARED-F-P1-JUSTIFICATION

Sources: p1/review.json · civic-machine problems[1]; p2/review.json · balanced distractors plus document/calculation justifications; p5/review.json · graph unit/base justification

Recommendation: Record a short case-specific rationale before explanatory feedback rather than treating keyed recognition as sufficient evidence.

Status: implemented-controls-and-review

Locations: advanced-controls.js · requireJustifications control/checkReviewHTML; hosted-client.js · snapshotHTML; server.js · statePayload

Behavior: Current rationale drafts and every submitted rationale are distinguished in teacher review. The connector and backend retain the original attempt histories intact. Root implements the pre-feedback rationale gates; module metadata supplies the demanding prompts.

Entry 3

ID: SHARED-F-P2-GRAPH-REPRESENTATION

Sources: p2/review.json · crossModuleNotes chart-representation critique; p5/review.json · unfamiliar graph encodings; revision/REVISION_CONTRACT.md · graphPractice/data-design

Recommendation: Include an unfamiliar representation task with an exact accessible equivalent and human inspection of axis, base, unit and inference.

Status: implemented-controls-and-key

Locations: advanced-controls.js · graphKeyHTML/checkKeyHTML/teacherKeyHTML; advanced-controls.js · requireGraphChecks and base requireData help

Behavior: The teacher key includes graphPractice for bar/rates/interval/table records and the data-design correct option/rationale once. The representation evidence belongs to the numerical rubric home and adds no second score. Root renders the learner display and enforces its optionality under requireData:false.

Entry 4

ID: SHARED-F-STRUCTURED-PRODUCT-REVIEW

Sources: p1/review.json · empty structural scaffolds; p2/semantic.json · generative products as rubric-linked submissions; p3/review.json · blank structured ledgers; p4/review.json · explicit instructor checklists; p5/review.json · learner-authored audit rows

Recommendation: Make multi-part generative products inspectable without filling them with an answer or equating word counts with quality.

Status: implemented-controls-and-review

Locations: advanced-controls.js · requireWorkspaces/workspacesReviewHTML/teacherKeyHTML; hosted-client.js · formatted submitted snapshot review

Behavior: Review tables show learner-authored cells, row labels, given context and human review notes, retaining zero-valued cells and unknown saved rows/columns. Row-specific field lists identify cells that are not requested. Completion and arithmetic validity are explicitly mechanical. Module configs and the root engine supply blank products and validators.

Entry 5

ID: SHARED-F-P5-ONE-SCORING-HOME

Sources: p5/review.json · democracy-alarm problems[2]; p4/review.json · criterion-by-criterion review; p2/review.json · rubric-linked exported evidence

Recommendation: Publish one outcome-to-evidence home per criterion and avoid double-counting criteria.

Status: implemented

Locations: advanced-controls.js · reviewCriteria/rubricHTML/reviewRubricText

Behavior: AdvancedRubric takes precedence. Matched reviewPrompts appear with their existing scoring row; repeated criterion labels and repeated prompts do not create another score. Unmatched prompts are comment-only. The exported blank review rubric uses the same map. Four-level 0-3 advanced rubrics and earlier 0-2 rubrics both retain every anchor.

Entry 6

ID: SHARED-F-P5-CALIBRATION-POSITIVE-FINDING

Sources: p5/review.json · democracy-alarm problems[2]; p1/review.json · positive contributions and justified retention; p5/semantic.json · semantic quality beyond keyed choices

Recommendation: Include two short contrasting unrelated calibration examples and assess positive warranted findings as well as overclaim avoidance.

Status: implemented

Locations: advanced-controls.js · rubricHTML

Behavior: The teacher view includes explicitly fictional library examples contrasting an untested attribution with a bounded positive observation and same-outcome rival comparison. Examples add no category or automatic score and do not solve any political dossier.

Entry 7

ID: SHARED-F-SEMANTIC-CAUSAL-LINKS

Sources: p1/semantic.json · recurring discriminating causal design; p2/semantic.json · assignment/selection and protected follow-up; p3/semantic.json · causal-design inspectability; p4/semantic.json · rights as research constraints; p5/semantic.json · same-outcome rivals and unready instruments

Recommendation: Inspect actual sources, outcomes, same-link rivals, feasible decisions and revised tests rather than award mastery from all-correct multiple choice or long prose.

Status: implemented-review-boundary

Locations: advanced-controls.js · rubricHTML/teacherKeyHTML/renderReviewRecord/reviewRubricText

Behavior: The teacher rubric foregrounds actual evidence and multiple defensible decisions. The task key directs review of actor/authority/constraints, numerical object/base, positive contribution and late revision. Submitted choices are labeled recorded factual results; prose quality remains human-reviewed. Module-specific causal and rights repairs live in each module ledger.

Entry 8

ID: SHARED-F-AUDIT-EXPORT-REASONS

Sources: p1/semantic.json · persuasion-hearing keep reference reasons visible on export; p4/review.json · six audit rows and distinction quality; p5/review.json · audit reasons not automatically graded

Recommendation: Retain factual-audit reference reasons and learner-written explanations in exports and teacher collection.

Status: implemented

Locations: advanced-controls.js · workspacesReviewHTML/renderReviewRecord/reviewHTML; hosted-client.js · snapshotHTML and snapshot download; server.js · immutable state cloning

Behavior: Structured review shows all audit cells and rationale histories. Full preserved JSON and exact download remain available. No control or backend transformation drops explanation fields.

Entry 9

ID: SHARED-F-AND-L-NOTE-REUSE

Sources: p1/review.json · civic final brief duplicate source/decision work; s1/review.json · explicit revised finding/new uncertainty and provenance; s2/review.json · newly applied reasoning instead of recap; s3/review.json · permission to reuse earlier passage; s4/review.json · assemble and revise prior notes; s5/review.json · synthesis/revision of existing work

Recommendation: Reduce repeated transcription through deliberate reuse while requiring an actual revised inference or new uncertainty.

Status: implemented-controls-and-review

Locations: advanced-controls.js · allowNoteReuse control/renderReviewRecord; hosted-client.js · snapshotHTML; server.js · schema6 payload preservation

Behavior: The default permits learner-selected reuse. Teacher review shows copied text, source, target and time separately from the explicit final revision reflection. Earlier notes and histories remain intact when settings change. Root supplies copy actions and reflection requirements; reuse does not replace unfamiliar transfer.

Entry 10

ID: SHARED-F-SUPPORT-AND-ATTEMPT-RECORDS

Sources: p3/review.json · separate unaided and hinted performance; p1/review.json · no grade penalty for support use; revision/REVISION_CONTRACT.md · retain methods rather than case-answer hints

Recommendation: Distinguish optional methods and hints from unaided attempts without treating support use as a reasoning-score penalty.

Status: implemented-review-and-preservation

Locations: advanced-controls.js · checkReviewHTML/methodReviewHTML; server.js · full-state roundtrip

Behavior: Submitted attempts retain helpUsed, methodUsage and hintUsage histories. Optional expansion/hint openings have a readable teacher history and no scoring deduction. Existing process hints and different-topic examples remain unchanged. Root records the usage events.

Entry 11

ID: SHARED-PRESERVE-CLASS-COLLECTION

Sources: User requirement to preserve full existing backend; Actual extracted backend source and README

Recommendation: Retain authenticated owned classes, public assignment lookup, personal recovery, collision checks and explicit immutable submissions.

Status: implemented-and-tested

Locations: server.js · existing API routes retained; hosted-client.js · snapshotHTML only presentation extension; test-backend.cjs

Behavior: Schema6 is added to the supported progress formats without changing credential hashes, sessions, recovery keys, ownership, revision guards, consent, immutable snapshot semantics, deletion protection, origin checks or private-draft access. The localhost test confirms these paths still work.

Entry 12

ID: SHARED-PRESERVE-PREFERENCES-IMPORT-SECURITY

Sources: User advanced-controls preservation requirement; p2/review.json · accessible equivalents

Recommendation: Keep local display preferences, 5907 gate, settings/progress imports and exports, independent storage and collision behavior.

Status: implemented-and-tested

Locations: advanced-controls.js · existing preference/unlock/storage paths retained; advanced-controls.js · handleFile error retention; test-v6-controls.cjs

Behavior: Three reading sizes, contrast, reduced motion, artwork and scaffolds retain separate storage. Unlocked-only mutation and exports remain. Invalid settings-file imports now keep their rejection message instead of clearing it. Recorded learner text is escaped in structured teacher review, and review-copy import/export does not alter the active learner branch.

Entry 13

ID: SHARED-RATIONALE-FEEDBACK-EXPOSURE

Sources: Final engine Fun-to-Class justification-supplement formatter regression

Recommendation: Make every submitted rationale's recorded feedback-exposure provenance visible without implying the reasoning was unaided.

Status: implemented-and-tested

Locations: advanced-controls.js · checkReviewHTML; test-v6-controls.cjs · schema6 review fixture and formatter assertions

Behavior: Each rationale displays recorded after feedback or recorded before this attempt's feedback according to history.afterFeedback. Earlier histories without that flag display exposure timing not recorded. The original choice and empty rationale remain in their original row, while a later supplementary rationale is displayed in its own row. Prior attempts/support remain visible and timing labels explicitly do not establish unaided reasoning. All20 controls tests and syntax checks pass.

Entry 14

ID: SHARED-SEALED-WORKSPACE-SUPPLEMENTS

Sources: Root runtime assignment-switch deadlock fix and exposure/history preservation requirement

Recommendation: Display the first committed initial workspace separately from any later supplement after the late record; preserve both in schema6 review and exports.

Status: implemented-and-tested

Locations: advanced-controls.js · workspaceHistoryReviewHTML/workspacesReviewHTML/renderReviewRecord; test-v6-controls.cjs · schema6 fixture and sealed workspace import/export case

Behavior: Teacher review shows sealed original cells, commitment time, assigned-at-commit and mechanical-validity-at-commit flags, then the separate current draft and dated after-late supplement history. Later cells do not replace the initial account or imply unaided first-exposure reasoning. Review JSON import/export and the connector roundtrip preserve both structures exactly. Full-state backend cloning already preserves them; no backend API mutation was needed. The controls suite now passes all20 cases.

Entry 15

ID: SHARED-MARKUP-ACCESSIBLE-CONTROLS

Sources: Root rendered-markup QA of simultaneous learner/instructor controls

Recommendation: Give the instructor connection URL a unique input id and preserve matching labels/actions; give both hidden JSON import inputs accessible names.

Status: implemented-and-tested

Locations: hosted-client.js · common/renderInstructor/connect action; advanced-controls.js · hidden settings/review file inputs; test-v6-controls.cjs · visible control names and instructor connection event

Behavior: Learner and instructor URL inputs use backend-url and backend-instructor-url respectively. Each Connect button identifies its URL input and the handler reads that target. Both JSON import inputs have explicit aria-labels. The controls suite still passes all 19 cases, including actual instructor Connect event targeting.

Entry 16

ID: SHARED-OLD-HISTORY-PRESERVATION

Sources: User no-history-loss requirement; revision/REVISION_CONTRACT.md · schema3/4/5 as history

Recommendation: Accept current schema6 while preserving earlier saved work as readable/exportable history.

Status: implemented

Locations: advanced-controls.js · reviewRecord/renderReviewRecord; server.js · statePayload; README.md · progress contract

Behavior: Backend and teacher-review imports support schemas3/4/5/6 and preserve original records. Schema6 review presents legacyArchive and priorRuns separately. No old completion is promoted into new credit by these read/save paths. Root implements active-case migration.

Entry 17

ID: SHARED-CLAIM-BOUNDARIES

Sources: All five faculty and learner reports · AI-role and evidence limits; User no publishing/live-write constraint

Recommendation: Do not claim human learning gains, actual enjoyment, native-browser usability, cloud deployment or unperformed testing.

Status: preserved

Locations: README.md · deployment and verification boundaries; test-v6-controls.cjs · scope output; test-backend.cjs · scope output

Behavior: Verification is labeled Node VM/fake connector integration and temporary real localhost HTTP. No permanent service, site publication, package install, browser use or live account/backend write was performed. A human delayed-transfer pilot is outside this implementation task and remains a concrete future evaluation need.