

The Value Solid

Implementation-level technical model note

Regenerated from the app source on 2026-07-15 (docs/build-technical-note.mjs), after the marker-position rebuild and the realistic-goal change. Describes the model in `index.html`, `src/main.js`, `src/connectivity.js`, and `src/valueAssignments.js`. Each claim is tied to a visible rule or a named function; tables are read directly from the source.

Item	Current app value
Value labels (rays)	292
Value families (R2 rows)	32
Middle-scale regions	19
Semantic hue anchors	19
Chroma sliders	9
Contrast sliders	6
Max values in a mix	15

1. The value solid and where a marker lands

Two things live in the sphere. First, the **value rays**: every one of the 292 values is a ray from the origin whose length is felt magnitude — 0 means no current pull, 5 means the value fully drives the person in the modelled moment. Longitude preserves the circular value continuum; the value ray's latitude is the value's own social-serving (north) to self-serving (south) position.

Second, the **combined marker** for a mix of values. It is placed by three channels, not by a magnitude-weighted value vector: its longitude is the rank-weighted mean of the selected value directions, its latitude comes from Contrast (open lifts north, guarded drops south), and its radial depth from Chroma (muted or neutral sits at the core; vivid pushes to the shell). The 2D circle keeps the older reading for comparison — the magnitude-weighted vector of value directions with latitude flattened away.

2. Hue as character-value direction

Hue is tied to the value's direction around the continuum. The code stores 19 semantic hue anchors, one near each refined value anchor; `valueHueDegrees(angle)` interpolates between neighbouring anchor hues with `smoothstep` and shortest-direction hue movement. Chroma and Contrast never move the hue.

Value anchor	Longitude	Hue
Conformity: Rules	0	208
Conformity: Interpersonal	24	188
Humility	47	160
Benevolence: Dependability	70	176
Benevolence: Caring	88	154
Universalism: Concern	106	144
Universalism: Nature	120	122
Universalism: Tolerance	135	176
Self-Direction: Thought	168	258
Self-Direction: Action	190	285
Stimulation	205	30
Hedonism	235	42
Achievement	260	18
Power: Dominance	278	2
Power: Resources	294	350
Face	308	338
Security: Personal	324	212
Security: Societal	338	205
Tradition	350	198

3. The nine Chroma sliders (vivid ↔ muted, and depth)

Chroma is the vividness channel: it sets a value's colour saturation and the marker's radial depth. Moving a Chroma slider right makes the values it couples to more vivid and pushes their marker toward the shell; left mutes them and draws it toward the core. The nine sliders describe internal processing.

Slider	Band	Left pole	Right pole	Meaning
Deliberation	Conscious Voice	Swift	Thorough	How long you turn a thing over before concluding.
Revision	Conscious Voice	Steadfast	Malleable	How readily a chosen response overwrites a default.
Regulation	Conscious Voice	Unfiltered	Governed	How the deliberate mind manages the body activation.
Delivery	Subconscious Voice	Screened	Streaming	How much intuition, symbol, and memory reaches awareness.
Vigilance	Subconscious Voice	At-Ease	Vigilant	How strongly pattern-recognition arms the body in advance.
Association	Subconscious Voice	Literal	Symbolic	How the mind links one thing to the next beneath words.
Interoception	Spirit Voice	Insulated	Immersed	How much body-truth reaches awareness.
Tagging	Spirit Voice	Unweighted	Charged	How much felt weight binds into what you store.
Resonance	Spirit Voice	Damped	Resonant	How a bodily state feeds back on itself once begun.

4. The six Contrast sliders (guarded ↔ open, and latitude)

Contrast is the expression channel: it sets HSL lightness and the marker's latitude. Right lightens the values it couples to and lifts their marker north (open, forthcoming); left darkens them and drops it south (guarded, braced). The six sliders describe relational posture.

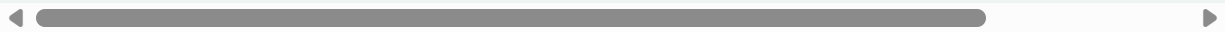
Slider	Band	Left pole	Right pole	Meaning
Disclosure	Conscious Self at Interface	Private	Forthcoming	How much of your actual position you present.
Appraisal	Conscious Self at Interface	Testing	Accepting	How you test what the other presents.
Warmth	Subconscious Self at Interface	Cool	Warm	The emotional field you broadcast.
Attunement	Subconscious Self at Interface	Bounded	Absorbed	How the other state registers in you.
Approach	Spirit Self at Interface	Reserved	Forward	Bodily movement toward or away from connection.
Safety Read	Spirit Self at Interface	Braced	Disarmed	The threat or safety signal their presence produces.

5. Per-value colour and place

A value is read through the graded family-to-slider linkage R2 (§6): each slider tunes a value's family in proportion to its affinity above the base floor. Let the linkage weight of a slider be $\max(0, \text{affinity} - 0.1)$ and the normalized position be $\text{clamp}(\text{position} / 10, -1, +1)$.

```
chromaExpr  = affinity-weighted mean of normalized Chroma positions    // over the family's cou
contrastExpr = affinity-weighted mean of normalized Contrast positions
saturation   = clamp(BASE_CHROMA + chromaExpr * (chromaExpr >= 0 ? 1 - BASE_CHROMA : BASE_CHROMA)
lightness    = clamp(BASE_LIGHTNESS + contrastExpr * BASE_LIGHTNESS, 0, 1)
colour       = HSL(valueHue, saturation, lightness)                    // converted to RGB for displ

place: longitude = valueHue's value direction
      latitude  = (lightness - 0.5) * 180                             // +90 north (light) .. -90 s
      depth     = clamp(chromaExpr, 0, 1) * MODEL_RADIUS              // 0 = core, MODEL_RADIUS =
```



Source constants: BASE_CHROMA 0.62, BASE_LIGHTNESS 0.5, R2_BASE 0.1, expression range $-10..+10$, MAX_VALUE_RADIUS 5, RANK_CURVE_OFFSET 1.09. Depth is *unipolar*: a neutral value ($\text{chromaExpr} \leq 0$) sits at the core and only vividness pushes it out.

6. Family coupling table (R2)

The code-level linkage. Unlike a one-primary-plus-one-secondary map, each family has a *graded* set of couplings: exactly one Chroma and one Contrast slider at full strength (1.00), plus weaker secondaries. Values are the affinity read straight from `connectivity.js`.

Family	Chroma couplings (affinity)	Contrast couplings (affinity)
inquiry-reason	Deliberation 1.00; Association 0.40; Revision 0.25	Disclosure 1.00; Appraisal 0.25
creative-imagination	Delivery 1.00; Association 0.40; Revision 0.25; Resonance 0.15	Disclosure 1.00
authentic-selfhood	Revision 1.00; Deliberation 0.25; Interoception 0.25	Disclosure 1.00
agency-liberty	Revision 1.00; Deliberation 0.25	Approach 1.00; Disclosure 0.25
growth-potential	Revision 1.00; Association 0.25; Deliberation 0.15	Approach 1.00
courage-initiative	Resonance 1.00; Vigilance 0.50; Regulation 0.40; Revision 0.25	Approach 1.00; Safety Read 0.15
exploration-change	Resonance 1.00; Revision 0.40; Vigilance 0.15	Approach 1.00
beauty-expression	Interoception 1.00; Delivery 0.40; Resonance 0.25	Warmth 1.00; Disclosure 0.15
pleasure-delight	Interoception 1.00; Resonance 0.40	Approach 1.00; Warmth 0.15
accomplishment-mastery	Deliberation 1.00; Revision 0.40; Vigilance 0.25	Disclosure 1.00; Approach 0.25
persistence-drive	Revision 1.00; Regulation 0.40; Vigilance 0.25	Approach 1.00
influence-command	Vigilance 1.00; Deliberation 0.50; Regulation 0.25	Approach 1.00; Appraisal 0.15
resources-prosperity	Deliberation 1.00; Vigilance 0.40	Safety Read 1.00; Approach 0.25
status-esteem	Vigilance 1.00; Resonance 0.15	Safety Read 1.00; Appraisal 0.40; Approach 0.25
personal-safety-balance	Vigilance 1.00; Interoception 0.50; Regulation 0.40; Deliberation 0.15	Safety Read 1.00
order-resilience	Vigilance 1.00; Regulation 0.40; Deliberation 0.25	Safety Read 1.00; Approach 0.15
heritage-reverence	Tagging 1.00; Association 0.50; Interoception 0.25	Attunement 1.00
discipline-restraint	Regulation 1.00; Deliberation 0.25; Vigilance 0.25	Safety Read 1.00
accountability-integrity	Regulation 1.00; Deliberation 0.40; Vigilance 0.15	Disclosure 1.00; Appraisal 0.25
law-ethics	Regulation 1.00; Deliberation 0.50; Association 0.25	Appraisal 1.00; Disclosure 0.15
diligence-work	Regulation 1.00; Deliberation 0.25; Vigilance 0.25	Approach 1.00
pragmatic-oversight	Deliberation 1.00; Vigilance 0.40; Regulation 0.25	Appraisal 1.00
interpersonal-regard	Delivery 1.00; Regulation 0.50	Attunement 1.00; Appraisal 0.25; Warmth 0.15
humility-grace	Regulation 1.00; Deliberation 0.50; Interoception 0.15	Appraisal 1.00; Attunement 0.40

Family	Chroma couplings (affinity)	Contrast couplings (affinity)
belonging-community	Tagging 1.00; Delivery 0.50; Interoception 0.25; Resonance 0.15	Attunement 1.00; Warmth 0.40
loyalty-trust	Tagging 1.00; Vigilance 0.25	Disclosure 1.00; Attunement 0.40; Safety Read 0.15
compassion-mercy	Delivery 1.00; Resonance 0.50; Interoception 0.40	Warmth 1.00; Attunement 0.40
affection-kindness	Delivery 1.00; Resonance 0.50; Interoception 0.40	Warmth 1.00; Attunement 0.25
generosity-service	Delivery 1.00; Interoception 0.25	Warmth 1.00; Attunement 0.25; Approach 0.15
justice-rights	Association 1.00; Tagging 0.50; Deliberation 0.40; Resonance 0.15	Appraisal 1.00; Attunement 0.25
ecological-stewardship	Association 1.00; Resonance 0.50; Interoception 0.25; Tagging 0.15	Attunement 1.00
inclusion-tolerance	Association 1.00; Revision 0.15	Appraisal 1.00; Attunement 0.40

7. The combined marker (the mix)

A mix holds up to 15 values. Each carries a 0..5 magnitude and a rank (its list position). Rank — not magnitude — drives the aura blend, through a single opacity curve. Magnitude sets the value's own ray, weights the 2D circle marker, and feeds the coherence goal (§9).

```

opacity(rank)      = 1 / (rank + 1.09), renormalized across the mix
combined hue       = opacity-weighted circular mean of value hues
saturation / light = opacity-weighted mean of per-value saturation / lightness
marker longitude   = opacity-weighted circular mean of value directions
marker latitude    = from combined lightness (Contrast)
marker depth       = from combined chromaExpr (Chroma), unipolar
2D circle marker   = magnitude-weighted vector of value directions (latitude flattened)

```

Values that point in clashing directions do **not** gray the colour down. That scatter is read separately, as dissonance (§10).

8. Rank, magnitude, and visible weighting

Reordering the mix changes rank, and rank changes opacity through the curve above, so the top-ranked values shape the aura most and a reorder visibly changes the colour and the marker. Magnitude stays a separate, visible control: it is the value's felt fullness, its ray length, its weight in the 2D circle, and its importance in the coherence goal. The rule is transparency — every colour or position change traces to a visible slider, value, or rank.

9. The coherence goal and calibration

For any set of values, with ranks and magnitudes, `computeGoalFor` solves in closed form for the coherent goal — where all fifteen sliders, in position and rank, would sit to agree with those values. It builds a demand vector from the linkage and pole directions, then solves $(I - \kappa W) g = d$ by Gauss–Jordan, with κ auto-capped so the system stays well-conditioned. Goal positions are `softSaturate(10 · g / gRef)`: strong demands ease toward a lived-in ceiling (GOAL_CEIL 7, above the knee at 4) rather than pinning to ± 10 , so a coherent person reads as balanced, not maxed-out. The values are the anchor and are never moved.

Show dissonance paints a ghost of each slider at its goal position and rank. **Lock** sets the sliders to the goal — collapsing dissonance to zero without touching the values, showing the coherent expression those values would produce.

10. Dissonance: metallic, negative, neon

Dissonance is the gap between where a slider sits and the goal, surfaced three ways by `computeDissonance`, each on top of the untouched base colour:

- **Metallic sheen** — values whose anchors oppose each other on the continuum (never a graying).
- **Photo-negative overlay** — a Chroma slider that disagrees with its goal, on the affected value's hue.
- **Neon overlay** — a Contrast slider that disagrees with its goal.

11. Reference configurations: beacons and archetypes

Beacons are named, coherence-derived (dissonance-free) reference configurations. Each is plotted at its true locator with the identical `beaconLocator / aggregateAura` math the live mix uses. Because their sliders equal the softened goal, their magnitudes are realistic (no ± 10 rail pins) and they land mid-sphere rather than on the shell. Read-only; a new beacon file can be uploaded.

Archetypes are the twelve classical types, each authored as a full 15-value, 9-Chroma, 6-Contrast configuration. Unlike beacons they are *not* coherence-derived: they are hand-written characters and usually carry some dissonance of their own. Clicking one copies its whole configuration into the editable mix; edits never write back, and there is no upload.

12. Sources used by the app

- Schwartz et al. 2012, Journal of Personality and Social Psychology — <https://doi.org/10.1037/a0029393>
- PVQ-RR psychometrics, 49 cultural groups — <https://pmc.ncbi.nlm.nih.gov/articles/PMC9131418/>
- Coelho et al. 2019, European Journal of Personality — <https://doi.org/10.1002/per.2170>
- Jonauskaite et al. 2020, Psychological Science — <https://doi.org/10.1177/0956797620948810>
- Local implementation: `src/main.js`, `src/connectivity.js`, `src/valueAssignments.js`