Resistance Map document

**Core Entities (minimal but complete)**

**1) Identity & Org structure**

* organization(id, name, industry, size\_band)
* team(id, organization\_id, name, level\_tag)  
  + level\_tag examples: executive, director, manager, ic
* person(id, organization\_id, email, name, title, level\_tag)
* membership(id, person\_id, team\_id, role\_in\_team, is\_primary\_team)

**2) Assessment catalog & versions**

* assessment\_template(id, slug, label, context, tier, version, is\_active)  
  + context: leadership, career\_growth, etc.
  + tier: free, paid
* assessment\_item(id, template\_id, item\_no, item\_type, text, reverse\_scored, forced\_map, archetype\_id, context\_tags[])  
  + item\_type: likert, forced\_choice, scenario
  + forced\_map: JSON map of option→score when applicable
  + archetype\_id: FK to archetype taxonomy (below)
  + context\_tags[]: e.g., ["decision\_making","delegation","collaboration","results","risk","coaching"]

**3) Archetype taxonomy (8 patterns)**

* archetype(id, code, name, short\_label)  
  + Examples: SA Strategic Architect, VDI Vision-Driven Innovator, DCA Decisive Change Agent, CH Collaborative Harmonizer, ED Empowering Delegator, PCC People-Centric Coach, RAS Risk-Aware Stabilizer, ODA Outcome-Driven Achiever

**4) Attempts, responses, scores**

* assessment\_attempt(id, person\_id, template\_id, started\_at, submitted\_at, time\_sec, status, meta)  
  + meta (JSON): device, ip, locale, etc.
* item\_response(id, attempt\_id, item\_id, response\_raw, response\_value, response\_meta)  
  + Normalize raw to a numeric response\_value (1–5 for Likert; mapped score for forced/scenario)
* archetype\_score(id, attempt\_id, archetype\_id, raw, pct, band)  
  + pct normalized 0–100 (free: map 3–15→0–100; paid: 8–34→0–100)
  + band: low (0–34), moderate (35–54), high (55–100)
* derived\_metrics(attempt\_id PK)  
  + overall\_resistance\_pct
  + overall\_band
  + balancing\_index\_pct (paid)
  + balancing\_adjustment (paid)
  + dominant\_archetype\_id
  + profile\_type (e.g., low\_profile, moderate\_profile, mixed\_highs)
  + situational\_mode\_summary (JSON; see below)

**5) Aggregates (materialized views or tables)**

* team\_archetype\_agg(team\_id, template\_id, window, n\_people, n\_attempts, mean\_pct[8], p90\_pct[8], stdev\_pct[8], last\_attempt\_at)
* level\_archetype\_agg(organization\_id, level\_tag, template\_id, window, n\_people, mean\_pct[8], p90\_pct[8])
* org\_archetype\_agg(organization\_id, template\_id, window, n\_people, mean\_pct[8], p90\_pct[8])
* heatmap\_context\_agg(scope\_type, scope\_id, template\_id, window, context\_tag, mean\_pct\_by\_archetype JSON)

window examples: latest\_per\_person, 30d, quarter, all\_time.

mean\_pct[8] is an ordered array or JSON keyed by archetype code.

**Situational Layer (protective vs. restrictive)**

You called out the key nuance: some patterns are protective in certain contexts and restrictive in others. Capture that explicitly from the item metadata.

**A) Tag each item with one or more context tags**

* decision\_making, delegation, collaboration, results, risk, coaching

**B) Compute context-weighted archetype scores**

For each attempt:

* context\_archetype\_score(attempt\_id, context\_tag, archetype\_id, raw, pct)

**C) Derive “mode” per context (simple rule works well)**

For a given (attempt\_id, context\_tag, archetype):

* If pct ≥ 55 and the item text orientation (from template) indicates overuse → classify restrictive
* If pct is moderate (35–54) and items include “balancing” reverse-scored behaviors → protective
* Else neutral

Store a compact JSON:

{

  "decision\_making": {"SA":"restrictive","DCA":"protective","RAS":"protective"},

  "collaboration": {"CH":"restrictive","VDI":"neutral"},

  "delegation": {"ED":"restrictive","PCC":"protective"},

  "results": {"ODA":"restrictive","SA":"neutral"}

}

Persist into derived\_metrics.situational\_mode\_summary.

Roll these up the same way you roll up pct means:

* In heatmap\_context\_agg, count protective vs. restrictive per (context, archetype) to color the org/team map accordingly.

**Normalization & Bands (aligned to your frameworks)**

* Free leadership: raw range per archetype = 3–15 → pct = ((raw-3)/12)\*100
* Paid leadership: raw 8–34 → pct = ((raw-8)/26)\*100
* Bands: Low 0–34, Moderate 35–54, High 55–100
* Balancing Index (paid): average reverse-coded balancing items → 0–100; apply:  
  + ≥55 → subtract 3 from each archetype pct
  + 35–54 → no change
  + ≤34 → add 2
  + clamp 0–100

These belong in the scoring service and are stored in archetype\_score.pct, archetype\_score.band, and derived\_metrics.

**Example payloads**

**1) Assessment attempt (ingest → compute)**

{

  "attempt": {

    "id": "att\_123",

    "person\_id": "per\_789",

    "template\_id": "tmpl\_lead\_free\_v4",

    "started\_at": "2025-09-28T23:02:00Z",

    "submitted\_at": "2025-09-28T23:08:34Z",

    "responses": [

      {"item\_id":"q1","raw":"Agree","value":4},

      {"item\_id":"q4","raw":"A","value":5},      // forced-choice mapped

      {"item\_id":"q8","raw":"Agree","value":2}   // reverse-scored item

    ]

  }

}

**2) Computed scores (store)**

{

  "scores": {

    "archetypes": [

      {"code":"SA","raw":11,"pct":66.7,"band":"high"},

      {"code":"DCA","raw":10,"pct":58.3,"band":"high"},

      {"code":"CH","raw":8,"pct":41.7,"band":"moderate"},

      {"code":"ODA","raw":9,"pct":50.0,"band":"moderate"},

      {"code":"VDI","raw":6,"pct":25.0,"band":"low"},

      {"code":"ED","raw":5,"pct":16.7,"band":"low"},

      {"code":"PCC","raw":7,"pct":33.3,"band":"low"},

      {"code":"RAS","raw":7,"pct":33.3,"band":"low"}

    ],

    "overall\_resistance\_pct": 51.6,

    "overall\_band": "moderate",

    "dominant\_archetype": "SA",

    "situational\_mode\_summary": {

      "decision\_making": {"SA":"restrictive","DCA":"protective","RAS":"protective"},

      "delegation": {"ED":"restrictive","PCC":"protective"}

    }

  }

}

**Roll-ups (selection & weighting)**

Selection rule (simple, effective):

* Use latest\_per\_person per template for team/org views (prevents power users from dominating).
* Optional: decay weighting by recency (e.g., last 90 days gets 1.0, 90–180d gets 0.5).

Team mean example (SQL-ish):

WITH latest AS (

  SELECT aa.\*

  FROM assessment\_attempt aa

  JOIN (

    SELECT person\_id, template\_id, MAX(submitted\_at) AS last\_sub

    FROM assessment\_attempt

    WHERE status='submitted'

    GROUP BY person\_id, template\_id

  ) l ON l.person\_id=aa.person\_id AND l.template\_id=aa.template\_id AND l.last\_sub=aa.submitted\_at

  JOIN membership m ON m.person\_id=aa.person\_id

  WHERE m.team\_id = :team\_id AND aa.template\_id=:template\_id

),

scores AS (

  SELECT s.archetype\_id, s.pct

  FROM archetype\_score s

  JOIN latest a ON a.id=s.attempt\_id

)

SELECT archetype\_id, AVG(pct) AS mean\_pct, COUNT(\*) AS n

FROM scores

GROUP BY archetype\_id;

Context heatmap (protective vs restrictive counts):

SELECT ctx.context\_tag,

       ctx.archetype\_id,

       SUM( (mode='protective')::int ) AS protective\_n,

       SUM( (mode='restrictive')::int ) AS restrictive\_n

FROM context\_archetype\_mode ctx

JOIN latest a ON a.id=ctx.attempt\_id

GROUP BY ctx.context\_tag, ctx.archetype\_id;

context\_archetype\_mode is a convenience view produced from context\_archetype\_score + your mode rules.

**API Sketch (clean separation)**

* POST /attempts → create attempt stub
* POST /attempts/{id}/responses → batch responses
* POST /attempts/{id}/submit → triggers scoring pipeline
* GET /attempts/{id}/results → individual results (narrative + data)
* GET /teams/{id}/resistance-map?template=lead\_free\_v4&window=latest\_per\_person → returns:  
  + mean/p90 by archetype
  + context heatmap (protective vs. restrictive)
  + top spikes & friction notes (derived)
* GET /orgs/{id}/compare?by=level\_tag → side-by-side for executive vs. manager vs. IC

**Front-end Objects (for charts)**

**Team Resistance Map (radar)**

{

  "series": [

    {"name":"Team Mean", "data":{"SA":62,"VDI":41,"DCA":58,"CH":49,"ED":37,"PCC":44,"RAS":53,"ODA":55}},

    {"name":"P90", "data":{"SA":78,"VDI":63,"DCA":74,"CH":68,"ED":59,"PCC":66,"RAS":71,"ODA":76}}

  ],

  "meta": {"n\_people": 14, "last\_attempt\_at":"2025-09-27"}

}

**Context Heatmap (rows=context, cols=archetype)**

{

  "contexts": ["decision\_making","collaboration","delegation","results","risk","coaching"],

  "protective\_counts": {"decision\_making":{"DCA":9,"RAS":7},"delegation":{"PCC":6}},

  "restrictive\_counts": {"decision\_making":{"SA":11},"collaboration":{"CH":10},"results":{"ODA":12}}

}

**Data governance / versioning**

* Store template.version and item\_id permanently; never reuse IDs.
* Every computed number is reproducible: keep raw responses.
* PII separated: put person in a different schema or service; only use person\_id in analytics.
* If an assessment changes, create a new template\_id/version; don’t hot-edit live items.

**Quick implementation checklist**

1. Create the 10 tables above (identity, catalog, attempts, responses, scores, aggregates).
2. Add item metadata now (archetype\_id + context\_tags + reverse\_scored + forced\_map).
3. Implement scoring service for free and paid (normalization + bands + balancing index).
4. Emit context\_archetype\_score and situational\_mode\_summary on every submit.
5. Build materialized views for team/org roll-ups and refresh on demand.
6. Wire dashboards:  
   * Radar (mean + p90)
   * Heatmap (protective vs. restrictive by context)
   * Comparisons (by team/level/department)