System Audit Report

Overall Score: 4.0 / 5.0

Risk Level: High

Date: 2026-01-10

Scope: Full System

1. Dimension Scores

Dimension	Score	Findings
Code Quality	5.0	0
Security	5.0	0
Testing	0.0	1
Database	5.0	10
API	0.5	1
Architecture	5.0	0
UI/UX	4.2	0
AI Layer	5.0	6
DevOps	5.0	1
Drift Detection	5.0	0

2. Critical Findings

[Critical] Could not load FastAPI app

Description: Failed to import 'app' from backend.main for inspection.
Recommendation: Fix import paths in analyzer.

3. Major Findings

[Major] Test coverage estimated at 9%

Description: Low test coverage detected
Recommendation: Add unit tests for core modules

[Major] Unenforced Foreign Key: 'organizations.tax_id'

Description: Column 'tax_id' suggests a relation but has no FK constraint.
Recommendation: Add FOREIGN KEY constraint for tax_id

[Major] Unenforced Foreign Key: 'departments.plant_id'

Description: Column 'plant_id' suggests a relation but has no FK constraint.
Recommendation: Add FOREIGN KEY constraint for plant_id

[Major] Unenforced Foreign Key: 'grades.employment_level_id'

Description: Column 'employment_level_id' suggests a relation but has no FK constraint.
Recommendation: Add FOREIGN KEY constraint for employment_level_id

[Major] Unenforced Foreign Key: 'positions.designation_id'

Description: Column 'designation_id' suggests a relation but has no FK constraint.
Recommendation: Add FOREIGN KEY constraint for designation_id

[Major] Insufficient input validation on AI calls

Description: Not all AI integrations validate input data (7/54)
Recommendation: Add schema validation before sending data to AI models

[Major] Unsafe AI Temperature Settings

Description: Found 53 AI calls without explicit low-temperature settings (risk of hallucinations).
Recommendation: Set temperature=0.0-0.2 for factual tasks.

[Major] Missing Grounding Instructions

Description: Found 53 AI prompts without grounding constraints.
Recommendation: Include 'only use provided context' or similar constraints in prompts.

[Major] Missing Response Validation

Description: Found 49 AI calls without response validation.
Recommendation: Implement schema validation or parsing for AI outputs to catch malformed responses.

[Major] Insufficient Fallback Behavior

Description: Less than 50% of AI calls have fallback logic (0/54).
Recommendation: Implement graceful degradation with default responses when AI calls fail.

4. Action Plan

Issue	Owner	Priority
Could not load FastAPI app	unassigned	Critical
Test coverage estimated at 9%	unassigned	High
Unenforced Foreign Key: 'organizations.tax_id	unassigned	High
Unenforced Foreign Key: 'departments.plant_id	unassigned	High
Unenforced Foreign Key: 'grades.employment_le	unassigned	High
Unenforced Foreign Key: 'positions.designatio	unassigned	High
Insufficient input validation on AI calls	unassigned	High
Unsafe AI Temperature Settings	unassigned	High
Missing Grounding Instructions	unassigned	High
Missing Response Validation	unassigned	High