

# System Audit Report

Overall Score: 3.0 / 5.0

Date: 2026-01-05

Risk Level: High

Scope: Full System

## 1. Dimension Scores

Dimension	Score	Findings
Code Quality	5.0	0
Security	5.0	1
Testing	0.0	1
Database	3.5	16
API	0.5	1
Architecture	5.0	0
UI/UX	0.0	3
AI Layer	5.0	6
DevOps	5.0	1
Drift Detection	1.5	7

## 2. Critical Findings

### [Critical] Potential hardcoded secret detected

Description: Found in test\_custom\_rules.py

Recommendation: Move secrets to environment variables

### [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 8%

Description: Low test coverage detected

Recommendation: Add unit tests for core modules

### [Major] Unenforced Foreign Key: 'employees.department\_id'

Description: Column 'department\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for department\_id

### [Major] Unenforced Foreign Key: 'employees.designation\_id'

Description: Column 'designation\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for designation\_id

### [Major] Unenforced Foreign Key: 'employees.grade\_id'

Description: Column 'grade\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for grade\_id

### [Major] Unenforced Foreign Key: 'employees.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: 'employees.shift\_id'

Description: Column 'shift\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for shift\_id

### [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: 'hr\_plants.organization\_id'

Description: Column 'organization\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for organization\_id

**[Major] Unenforced Foreign Key: 'performance\_reviews.employee\_id'**

Description: Column 'employee\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for employee\_id

**[Major] Unenforced Foreign Key: 'performance\_reviews.reviewer\_id'**

Description: Column 'reviewer\_id' suggests a relation but has no FK constraint.

Recommendation: Add FOREIGN KEY constraint for reviewer\_id

**[Major] 101 components lack accessibility attributes**

Description: Missing aria-labels, alt text, or other a11y features

Recommendation: Add ARIA labels and alt text to improve accessibility

**[Major] Insufficient input validation on AI calls**

Description: Not all AI integrations validate input data (10/39)

Recommendation: Add schema validation before sending data to AI models

**[Major] Unsafe AI Temperature Settings**

Description: Found 38 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 38 AI prompts without grounding constraints.

Recommendation: Include 'only use provided context' or similar constraints in prompts.

**[Major] Missing Response Validation**

Description: Found 35 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 (0/39).

Recommendation: Implement graceful degradation with default responses when AI calls fail.

4. Action Plan

Issue	Owner	Priority
Potential hardcoded secret detected	unassigned	Critical
Could not load FastAPI app	unassigned	Critical
Test coverage estimated at 8%	unassigned	High
Unenforced Foreign Key: 'employees.department	unassigned	High
Unenforced Foreign Key: 'employees.designatio	unassigned	High
Unenforced Foreign Key: 'employees.grade_id'	unassigned	High
Unenforced Foreign Key: 'employees.plant_id'	unassigned	High
Unenforced Foreign Key: 'employees.shift_id'	unassigned	High
Unenforced Foreign Key: 'organizations.tax_id	unassigned	High
Unenforced Foreign Key: 'hr_plants.organizati	unassigned	High