

The AI-Native Smell Detector, Lesson 4: Viscosity | Assignment: The Slope Inspection

Overview

You have just joined a team. In your first week you notice two ways of doing the same thing in the codebase. Your job is to diagnose which way the slope is pointing and what to do about it.

Estimated Time

10 minutes

Before You Start

- Read both code snippets below.
- Have a blank text file or notepad ready for your answers.
- Imagine you are pairing with the engineer who wrote each one. What would you ask them?

REMEMBER

Viscosity is about the GRADIENT between two ways of doing the same thing. The team is rational; if a pattern shows up repeatedly, the system designed the incentive.

Your Task

Below are two functions in the same codebase. Both add a new scheduled job to the system. Read each, then answer the questions.

```
# ---- Pattern A: the 'official' way, used 4 times in the codebase ----
from myapp.scheduler import (
    JobRegistry, JobMetadata, JobPriority, JobAuditHandler
)

def register_cleanup_job():
    registry = JobRegistry.get_instance()
    metadata = JobMetadata(
        name="cleanup",
        owner="platform-team",
        priority=JobPriority.NORMAL,
        retries=3,
    )
    handler = JobAuditHandler(channel="ops-audit")
```

```
registry.register(  
    metadata=metadata,  
    callback=run_cleanup,  
    audit=handler,  
    schedule="0 3 * * *",  
)
```

```
# ---- Pattern B: the 'unofficial' way, used 17 times in the codebase ----  
import schedule  
schedule.every().day.at("03:00").do(run_cleanup)
```

What to Submit

1. Name the smell. Is the team writing bad code, or is the SYSTEM designed against itself? One sentence each.
2. Pattern B is used four times as often as Pattern A. What does that ratio tell you?
3. Propose ONE concrete change that would make engineers naturally reach for Pattern A. (It does not have to be 'redesign Pattern A' - think creatively.)
4. Bonus: an AI coding assistant has been added to the team. Without any intervention, which pattern will the assistant generate more of, and why?

Solution Sketch (Instructor)

SOLUTION

Smell: viscosity - Pattern A (the 'official' way) is six lines and four imports; Pattern B (the shortcut) is one line. The team is rational; the system designed the incentive. The 4:1 ratio is evidence: every place engineers had a choice, they took the shorter path. Possible fix: provide a one-line helper that wraps Pattern A with sensible defaults (e.g., 'register_job("cleanup", "0 3 * * *", run_cleanup)') and DELETE the imports for Pattern B from the project (or move them to a deprecated module). Bonus: the assistant will generate more Pattern B because it sees four times as many examples of it - the assistant amplifies whatever slope already exists.

Source File Reference

This assignment is part of Lesson 4 of Module 1: The AI-Native Smells Detector. The code snippet above is a teaching example. The full hands-on for this lesson uses related source files in the `source_code/` directory.