The **Prompt Engine** determines the *what*,  
The **Policy Engine** decides the *whether and how*.

**✅ Where the Policy Engine Fits in the Prompt Flow**

**🔄 Updated Execution Flow:**

pgsql

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User Input

↓

Prompt Engine

↓

(Intent + Entities)

↓

Policy Engine

↓

✅ Allowed → Return Agents + Prompt

🚫 Denied → Return Human Escalation / Reframe Prompt / Show Explanation

**🔄 Example Update to PromptEngineService**

python

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# prompt\_engine\_service.py

from policy\_engine import check\_policy\_compliance # NEW

class PromptEngineService:

def run(self, request: PromptRequest) -> PromptResponse:

intent = classify\_intent(request.user\_input)

entities = extract\_entities(request.user\_input)

# ✳️ Step 1: Enforce policy rules

allowed, reason = check\_policy\_compliance(intent, entities, request.user\_id)

if not allowed:

return PromptResponse(

intent=intent,

entities=entities,

prompt=f"Action blocked by policy: {reason}",

suggested\_agents=[]

)

# ✳️ Step 2: Continue if policy allows

prompt = generate\_prompt(intent, entities)

agent\_list = map\_to\_agents(intent, entities)

return PromptResponse(

intent=intent,

entities=entities,

prompt=prompt,

suggested\_agents=agent\_list

)

**🔐 Example Policy Logic**

python

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# policy\_engine.py

def check\_policy\_compliance(intent, entities, user\_id=None):

# Mocked example rules

if intent == "contract\_renegotiation" and entities.get("amount", 0) > 100000:

return False, "Only senior managers can initiate high-value renegotiations"

if intent == "supplier\_comparison" and not entities.get("supplier"):

return False, "No supplier provided"

return True, None

**🛡️ Real Enterprise Use Cases**

| **Policy Rule** | **Effect** |
| --- | --- |
| User is not allowed to see contract pricing data | Obfuscate or redact entities |
| User is junior and cannot trigger automated supplier outreach | Replace SupplierInteractionAgent with HumanInLoopAgent |
| ESG compliance policy prevents recommending certain suppliers | Remove blocked suppliers from comparison prompt |

**🔄 Summary of Fix**

| **Element** | **Old** | **Updated** |
| --- | --- | --- |
| Prompt Engine | Generated prompt and agent route based only on NLP | Now also checks enterprise policy |
| Decision Flow | User intent → agents | User intent → **policy validation** → agents |
| Outcome | All user queries executed | Some queries blocked, rerouted, or escalated based on policy |

Would you like this:

* Fully added into the Python module?
* Turned into a **policy-authoring UI** for non-technical users?
* Or visualized in a **decision tree or flow diagram**?

Let me know how you'd like to proceed.

**You said:**

yes fully add into the python code

**ChatGPT said:**

✅ The **Prompt Engine** module now fully integrates with the **Policy Engine** and includes error-handling for incomplete entity data.

**🔍 Final Output:**

json

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{

"intent": "contract\_renegotiation",

"entities": {

"supplier": "Supplier X",

"amount": 100000

},

"prompt": "Incomplete data: Missing 'category' for generating prompt.",

"suggested\_agents": [

"BenchmarkAgent",

"ContractIntelligenceAgent",

"LLMDraftingAgent"

],

"blocked": false,

"reason": null

}

**🧠 What This Shows:**

* The **intent was correctly identified** (contract\_renegotiation)
* **Policy check passed** (value exactly £100,000 is not blocked)
* **Prompt was attempted**, but flagged a missing entity (category)
* **Agents were mapped** correctly based on the intent

Would you like to:

* Extend this to support **multi-intent** chaining?
* Handle **conversational follow-ups** (e.g., ask the user to provide the missing category)?
* Export this whole module as a downloadable Python repo or ZIP?

Let me know how you'd like to proceed.

**You said:**

in each of the prompt engine folders give me more examples in each on them for my MVP as part of the agentic procurement SaaS product

**ChatGPT said:**

Mvp Agent List

**Agentic Procurement Platform MVP – Agent List**

**Scope:** Cost Control & Supplier Negotiation with Enterprise-Grade Automation

**✅ MVP Agent List**

**🎯 AI Orchestration & Control Agents**

1. **Task Orchestration Agent**  
   Controls workflow handoffs between agents, handles success/failure transitions.
2. **Human-in-the-Loop Agent**  
   Escalates low-confidence decisions to procurement users for approval/input.
3. **Policy Engine Agent**  
   Applies commercial rules and thresholds for decisioning (auto-approve, escalate, flag).

**💰 Cost Savings & Commercial Agents**

1. **Cost Optimizer Agent**  
   Analyzes pricing/spend to identify and rank savings opportunities.
2. **Opportunity Miner Agent**  
   Mines data to find inefficiencies and under-leveraged savings (e.g., bundling, expired discounts).
3. **Quote Evaluation Agent**  
   Compares supplier quotes using multi-variable scoring and recommends preferred offers.
4. **Benchmark Agent**  
   Pulls internal and external benchmarks to validate pricing and performance differences.
5. **Supplier Switching Agent**  
   Recommends supplier switch if savings and performance gains outweigh switching costs.

**📢 Supplier Interaction & Negotiation Agents**

1. **Supplier Interaction Agent**  
   Orchestrates outreach to suppliers for clarification, negotiation, quote revisions.
2. **LLM Drafting Agent**  
   Drafts contextualized messages (e.g., negotiation emails, clarification requests).
3. **Supplier Comparison Agent**  
   Presents suppliers side-by-side across cost, quality, and contract terms to support decision-making.

**✅ Approvals & Execution Agents**

1. **Approval Workflow Agent**  
   Manages approvals in line with delegation of authority; integrates with human review loops.
2. **Audit Trail Agent**  
   Records every action, decision, and escalation across the agent workflow.

**📊 Data Intelligence & Discrepancy Agents**

1. **Spend Analytics Agent**  
   Breaks down historical spend by supplier, category, and pricing unit.
2. **Discrepancy Detection Agent**  
   Flags mismatches between invoice, PO, contract, or pricing data that affect total cost.

**📁 Prompt Engine – MVP Examples by Folder**

**1. intent\_classifier.py – MVP Intents**

* "Can we renegotiate this contract?" → contract\_renegotiation
* "Compare Supplier A and B on quality and cost." → supplier\_comparison
* "What’s our spend with Supplier Y?" → spend\_query
* "Flag any savings opportunities this quarter." → savings\_detection
* "Send RFP to shortlisted suppliers." → supplier\_outreach

**2. entity\_extractor.py – Sample Entity Extraction**

* "Renegotiate Supplier X for Software, £100,000" → {"supplier": "Supplier X", "category": "Software", "amount": 100000}
* "Compare Supplier A and Supplier B for laptops" → {"supplier": ["Supplier A", "Supplier B"], "category": "Laptops"}
* "What’s our 2024 YTD spend on Cloud Services?" → {"category": "Cloud Services", "time\_range": "2024 YTD"}

**3. template\_library.py – Prompt Templates**

* contract\_renegotiation: "Renegotiate with {supplier} for {category}. Review clauses and suggest alternatives."
* supplier\_comparison: "Compare suppliers: {supplier}. Evaluate cost, performance, and risk."
* spend\_query: "What is our total spend with {supplier} for {category} in {time\_range}?"
* savings\_detection: "Analyze current contracts and invoices to find cost-saving opportunities."
* supplier\_outreach: "Draft and send RFP to shortlisted suppliers in category {category}."

**4. agent\_mapper.py – Intent to Agent Map**

* contract\_renegotiation: → [BenchmarkAgent, ContractIntelligenceAgent, LLMDraftingAgent]
* supplier\_comparison: → [SupplierComparisonAgent, QuoteEvaluationAgent]
* spend\_query: → [SpendAnalyticsAgent]
* savings\_detection: → [OpportunityMinerAgent, CostOptimizerAgent]
* supplier\_outreach: → [LLMDraftingAgent, SupplierInteractionAgent]

**5. policy\_engine.py – Example Policy Rules**

* Block renegotiation if amount > £100,000 and user is not a senior approver
* Block supplier outreach if vendor is blacklisted
* Require human review if benchmark deviation > 15%
* Require approval for contract generation if ESG risk score is high

**📊 MVP Agent Coverage Summary**

|  |  |
| --- | --- |
| **Category** | **Agent Count** |
| AI Orchestration & Governance | 3 |
| Cost Savings & Commercial | 5 |
| Supplier Engagement & Drafting | 3 |
| Approvals & Audit | 2 |
| Analytics & Quality Control | 2 |
| **Total MVP Agents** | **15** |

Edited