**Description**

This card defines the agent architecture and standard prompt framework for the AI Clinical OS. It ensures that each agent is designed with:

* Clear separation of concern
* Reusability across specialties
* Observability and explainability
* Modular orchestration
* Language, tone and region adaptation

**Prompt Framework Template (Used for Every Agent)**

🧠 SYSTEM ROLE:  
“You are a [Agent Role] in the Antilles AI Clinical OS.”

🎯 GOAL:

* What does this agent do specifically?

📥 INPUTS:

* What does it consume from other agents or the user?

📤 OUTPUT FORMAT:

* Natural language, structured JSON, FHIR fragments, etc.

✅ CONSTRAINTS:

* Tone, safety, boundaries, compliance.

🧠 REASONING STYLE:

* Rule-based / LLM / hybrid / reflection / etc.

📚 REFERENCE SOURCES:

* NICE CKS, SNOMED CT, ICD-11, PHQ-9, GAD-7, SOCRATES, etc.

**Core Agents & Their Responsibilities (Separation of Concerns)**

**Avatar Agent** - Conversational layer and emotional intelligence

* Handles real-time dialogue with users
* Adapts tone, pace, and language to user sentiment and preference
* Uses plain language and empathetic phrasing
* Delivers structured questions from other agents in a natural, conversational way
* Can escalate to human or pause/redirect conversation
* Instantiates other agents (e.g. history-taking, triage) as needed

**History Taking Agent -** Collects structured medical history using clinical heuristics

* Captures data using modular clinical frameworks:
* Presenting complaint
* History of presenting complaint
* Red flag symptoms
* Past medical/surgical history
* Drug history (prescribed, OTC, recreational)
* Allergies
* Family history
* Social history
* Review of systems
* Adapts language based on user profile
* Uses tools like SOCRATES for pain and ICE for expectations
* Ensures completeness and records negative symptoms

**Symptom Triage Agent** - Assesses urgency and likely clinical system(s) involved

* Delegates internally to:
* Red Flag Agent (rules-based safety filters)
* SNOMED CT Mapper (semantic system classification)
* NICE/CKS Guideline Checker
* LLM-driven system triage reasoner
* Triggers escalation pathways for urgent or life-threatening patterns
* Can prompt Avatar Agent to ask additional safety questions

**Clinical Reasoning Agent -** Builds differential diagnosis using structured and probabilistic reasoning

* Evaluates responses to identify likely and unlikely causes
* Drives questioning to refine differential
* Maintains internal working diagnosis tree
* Suggests investigations, advice, or watch-and-wait plans
* Integrates temporal reasoning (what changes over time?)

**Summarisation Agent** - summarises the consult for both the user and the clinical team

* Generates two outputs:
* A plain English summary for the user
* A structured clinical note (e.g. SOAP, SBAR)
* Links findings, reasoning, and next steps
* Applies consistent narrative tone and formatting

**Medical Record Agent -** Generates structured EHR-ready output (e.g. FHIR resource bundles)

* Composes consultation data into structured, standards-compliant formats
* Ensures terminology compatibility (SNOMED, ICD-10/11)
* Works closely with Coding Agent
* Supports downstream workflows and data pipelines

**Coding Agent** - Applies clinical codes to structured output

* Extracts and applies:
* SNOMED CT
* ICD-10/11
* CPT/LOINC if relevant
* Validates mappings for audit/compliance
* Prepares code sets for claims or billing if needed

**Sentiment & Risk Detection Agent -** Monitors emotional state and high-risk flags

* Detects indicators of:
* Suicidal ideation
* Distress, agitation
* Safeguarding concerns
* Suggests escalation or modifies tone and pace of conversation
* Tags sessions for review where needed

**Human-in-the-Loop (HITL) Agent -** Routes ambiguous or high-risk sessions for human review

* Applies risk thresholds
* Compiles structured handover packet
* Sends alerts to human reviewers (e.g. via Slack, Ops dashboard)
* Tracks review outcomes to improve agent feedback loops