

A Capstone Presentation

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Credit Assessment Policy



The Problem: The Challenge of Manual Credit Assessment

Manual processes are slow, inconsistent, and lack transparency.

- **Slow Decisions:** Manual data collection and validation create significant delays.
- **Inconsistent Outcomes:** Individual judgment leads to varied and unpredictable application of policies.
- **High Business Risk:** Incomplete or inaccurate data results in poor decision-making.
- **Lack of Transparency:** The "why" behind a decision is often unclear, making audits difficult and time-consuming.

Impact: These issues directly harm cash flow, erode customer trust, and create significant compliance risks.

Our Solution: An Intelligent, Automated Workflow

A multi-agent system designed for speed, consistency, and governance.

What it is: An automated workflow where four specialized agents collaborate to perform credit assessments.

What it Delivers:

- **Speed:** Reduces decision time from **hours to seconds**.
- **Consistency:** Ensures uniform application of credit policies for every customer.
- **Governance:** Creates a complete, end-to-end audit trail for every single decision.
- **Efficiency:** Minimizes manual intervention, freeing up valuable human resources.

The Four-Agent Workflow: A Team of Specialists

Our solution is built on four agents, each with a clear and distinct responsibility.

1. **The Investigator (Exposure Aggregator)**
 - **Mission:** Gathers all financial facts from ERP systems.
 - **Output:** A single, consolidated **Exposure Report**.
2. **The Analyst (Risk Scoring Agent)**
 - **Mission:** Assesses credit risk using internal and external data.
 - **Output:** A standardized **Risk Score & Category**.
3. **The Decision-Maker (Limit Setter Agent)**
 - **Mission:** Applies company policy and makes the final credit limit decision.
 - **Output:** A justified **Credit Decision** with an AI-generated explanation.
4. **The Chronicler (Audit Logger Agent)**
 - **Mission:** Records every action to ensure full traceability.
 - **Output:** An immutable **Audit Log**.



Agent 1: The Investigator (Exposure Aggregator) Developer: Golla Pranay

Mission: To build a complete and accurate financial snapshot of the customer.

- **Perceive:** Receives a customer ID and connects to core ERP systems.
- **Reason:** Fetches, merges, and de-duplicates all financial data (invoices, balances, receivables).
- **Act:** Compiles a clean and validated **Exposure Report**.

Importance: This agent ensures that the entire workflow is built on a foundation of trusted and accurate data.



Agent 2: The Analyst (Risk Scoring Agent)

Developer: Lokesh Reddy K

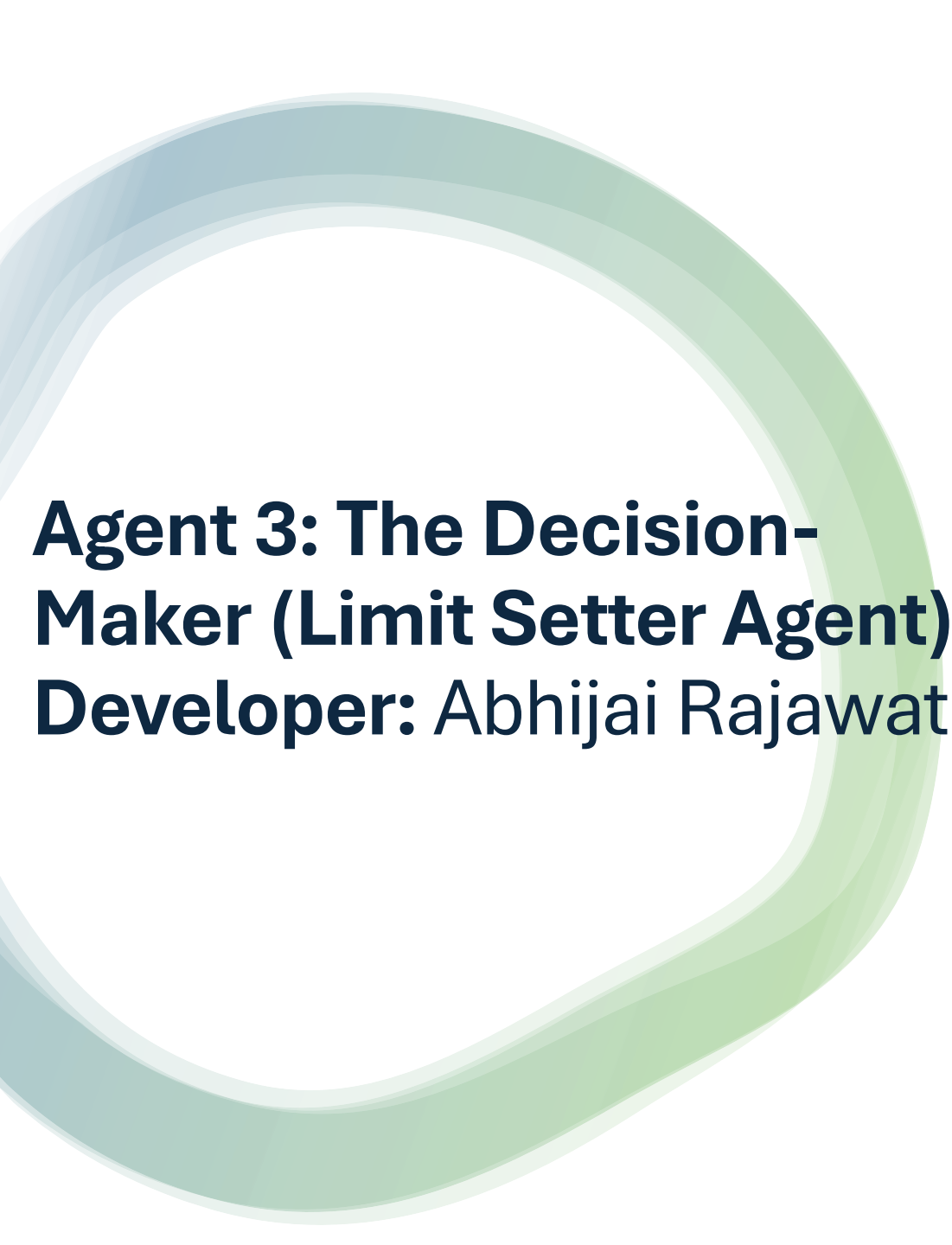
Mission: To provide an objective and standardized measure of customer risk.

Inputs: Exposure Report, Payment History, and External Credit Bureau Data.

Scoring Model: Applies a weighted model to calculate a final risk score.

- **40%:** Exposure Score
- **30%:** Payment Behavior Score
- **30%:** Bureau Score

Output: A precise **Risk Score (0-100)** and a clear **Risk Category** (Low, Medium, or High).



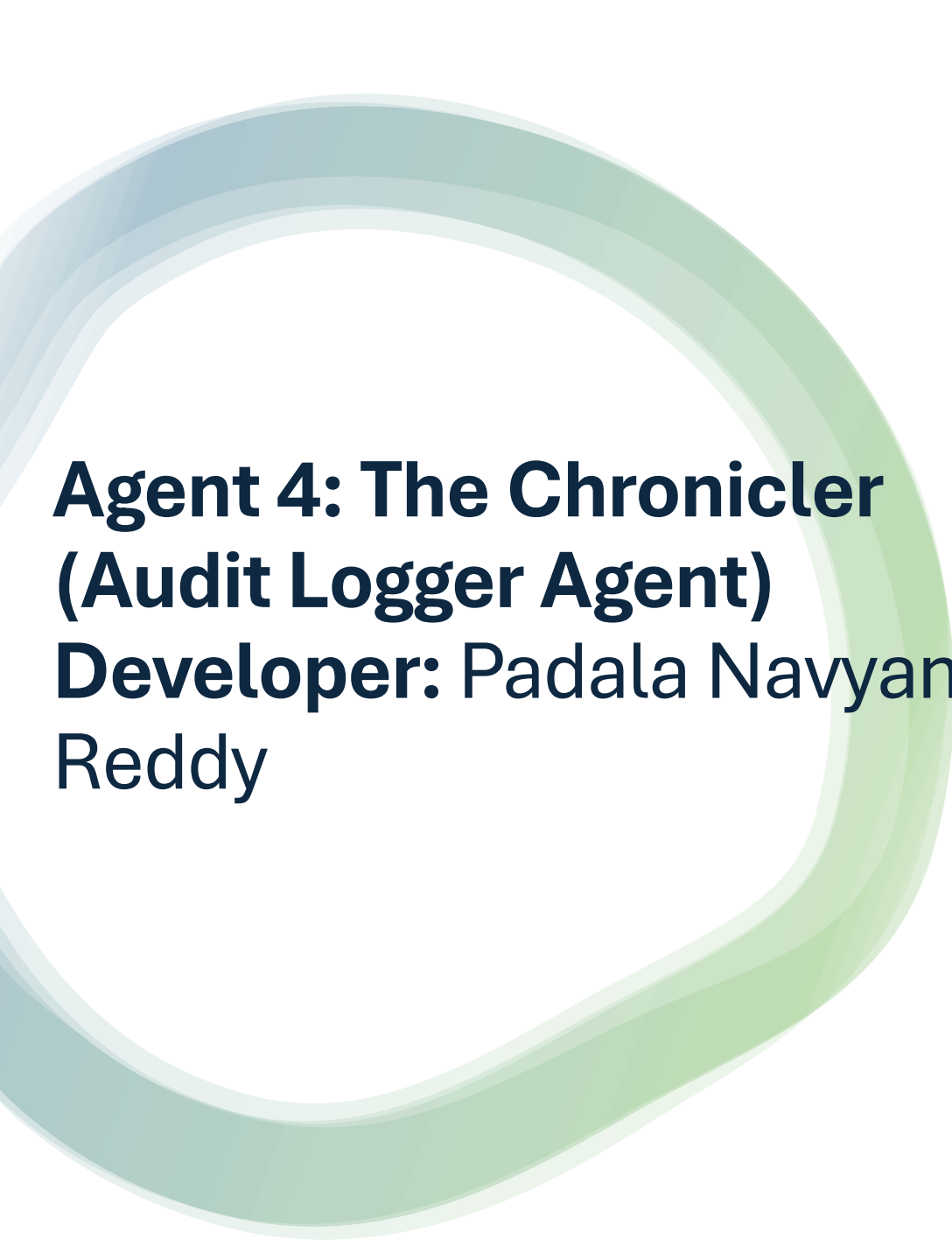
Agent 3: The Decision-Maker (Limit Setter Agent)

Developer: Abhijai Rajawat

Mission: To make a policy-compliant decision and explain it clearly.

- **Reasoning:** Matches the customer's risk category to a predefined business rule (e.g., "Low Risk = Increase limit by 30%").
- **Action:** Calculates the new credit limit based on the matched rule.
- **Unique Skill:** Uses **Generative AI (Azure OpenAI)** to write a human-readable sentence explaining *why* the decision was made.

Key Innovation: This creates a system that is not only automated but also transparent and explainable.



Agent 4: The Chronicler (Audit Logger Agent) Developer: Padala Navyanth Reddy

Mission: To ensure 100% traceability, compliance, and transparency.

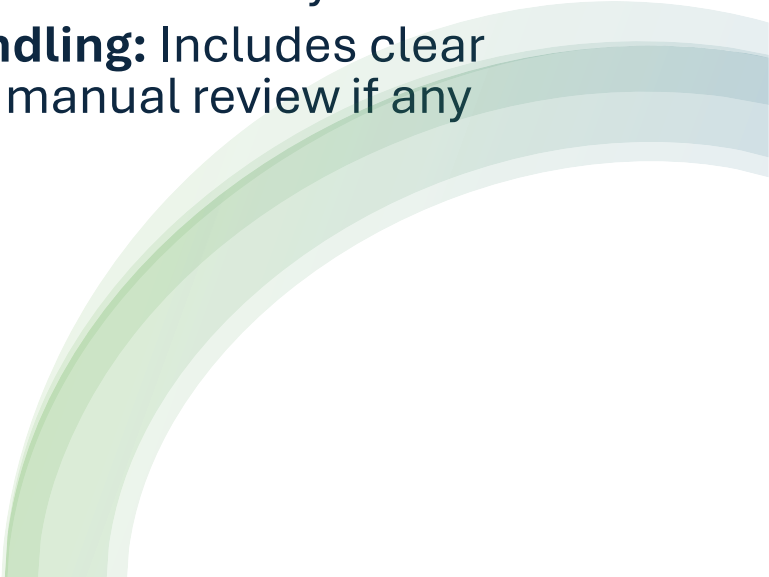
- **Observes:** Captures all inputs, outputs, timestamps, and status updates from every agent in the workflow.
- **Structures:** Reconstructs the complete sequence of events for each assessment.
- **Records:** Generates a final, immutable **audit trail** in a structured format (audit_trail.json).

Value: This agent produces compliance-ready evidence for every decision, making audits effortless.



Security, Reliability & Controls

Built for the demands of a real-world enterprise environment.

- **Secure Credential Management:** No hardcoded secrets or API keys in the code.
 - **API Rate-Limit Protection:** Ensures the process is stable and reliable, even when running in large batches.
 - **Data Validation & Standardization:** Guarantees that the correct business logic is applied consistently.
 - **Robust Exception Handling:** Includes clear logging and triggers for manual review if any issues arise.
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Business Value & Strategic Impact

This is more than just an automation tool; it's a strategic asset.

Business Value	Strategic Impact
Efficiency: Faster decisions improve business agility and responsiveness.	Scalability: This agent-based pattern can be extended to other domains like insurance, trade finance, or compliance screening.
Consistency: Eliminates human bias and ensures uniform policy application.	Trust: AI-powered explanations build confidence in automated systems.
Transparency: Every decision is fully traceable and explainable.	Governance: Creates a "System of Record" for AI-driven decisions, simplifying compliance oversight.

Conclusion

Transforming Credit Assessment into a Modern, Intelligent, and Trustworthy System.

Our project successfully combines:

- **Rule-Based Logic** for consistency and control.
- **AI Explainability** for transparency and trust.
- **Strong Audit Controls** for governance and compliance.

We have delivered a solution that expertly balances automation with accountability, making it ready for real-world enterprise deployment.



Q&A

**Thank You
Questions?**