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2025 SUPER HACK SUPEROPS

Building the Future of Agentic AI For IT Management

Team Name : Vipers

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Problem Statement :**Service efficiency improvement for MSPs and IT Teams ;**
Enhance the efficiency and effectiveness of IT service delivery, for:
Service request fulfillment efficiency

Brief about the Idea:

AI-Powered ITSM Solution for MSPs and IT Teams :

Our platform utilizes autonomous AI agents, powered by Amazon Bedrock AgentCore, to fundamentally transform IT service management through the following capabilities:

- Autonomous Incident Correlation: AI agents automatically group related incidents, decreasing technician workload by significant percentage.
- Proactive Monitoring with Predictive Analytics: Issues are anticipated and prevented before they occur, increasing service efficiency by significant percentage.

Brief about the Idea (cont'd)

- Intelligent Problem Management: The system automatically generates problem records based on incident patterns, in line with ITIL best practices.
- Multi-Agent Coordination: Three specialized agents collaborate seamlessly, eliminating the need for human intervention.
- Core Value: By leveraging AWS AI technologies, our solution turns reactive IT support into proactive, intelligent service delivery.

How different is it from any of the other existing ideas?
Since it is different from Traditional ITSM Platforms (e.g., ServiceNow, Jira Service Management) where :

Incident correlation relies on manual processes, Problem identification is reactive, Decision-making is human-dependent.

Whereas in Our agentic AI-Driven Solution: we have-

-Autonomous Decision Making: Agents use Amazon Bedrock for independent decisions
-Predictive Intelligence: Issues are forecasted over x hours in advance
-Self-Learning: The system adapts thresholds based on prior outcomes
-Real-Time Multi-Agent Coordination: Agents resolve conflicts and collaborate instantly

- How does it solve the problem?

Enhancing Technician Productivity:
-Manual correlation workload is reduced by significant %
-Escalation risk is predicted proactively
-Problem record creation is fully automated

Optimizing Time Management:
-Predictive analytics help to prevent outages
-Incident grouping saves investigation hours
-Proactive alerts minimize emergency response times

Improving Service Fulfillment:
-Pattern recognition spots recurring issues
-Capacity planning helps avoid bottlenecks
-Problem resolution is autonomously orchestrated

- Unique Selling Proposition

- True Autonomous ITSM: Agents operate without human input
- AWS-Native Design: Built on Amazon Bedrock AgentCore for scalability
- Predictive Issue Prevention: Stops problems before they impact users
- ITIL-Compliant Automation: Fully automated, standards-based processes
- Multi-Agent Intelligence: Specialized agents make coordinated decisions

List of features offered by the solution

Key Features

Correlation Agent

- Uses ML for semantic incident matching
- Predicts escalation risks
- Performs batch correlation analysis
- Prioritizes critical infrastructure

Monitoring Agent

- Detects issues proactively through anomaly identification
- Forecasts issues four hours in advance
- Recommends capacity adjustments in real-time
- Recognizes recurring anomaly patterns

Problem Agent

- Analyzes patterns in systems, symptoms, and timing
- Autonomously creates problem records when criteria are met
- Orchestrates problem resolution activities
- Generates AI-based root cause hypotheses

List of features offered by the solution (cont'd)

Unified Dashboard
- Provides live status of agents
- Displays predictive alerts
- Tracks performance metrics and autonomous actions
- Offers interactive control over thresholds and settings

Additional Features
- Agents improve accuracy with self-learning algorithms
- Ensures ITIL compliance
- Supports multi-tenant MSP environments
- Integrates with existing ITSM tools via API

WORKING PROTOTYPE AT:

https://kiro-superhack-uzrqduf5tzcdfdmlpwa6ic.streamlit.app/

Github: https://github.com/ecogetaway/kiro-superhack/

Process flow diagram

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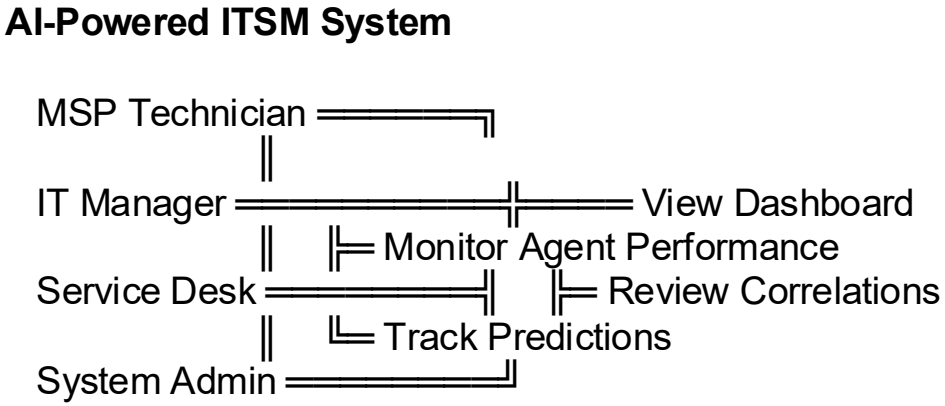
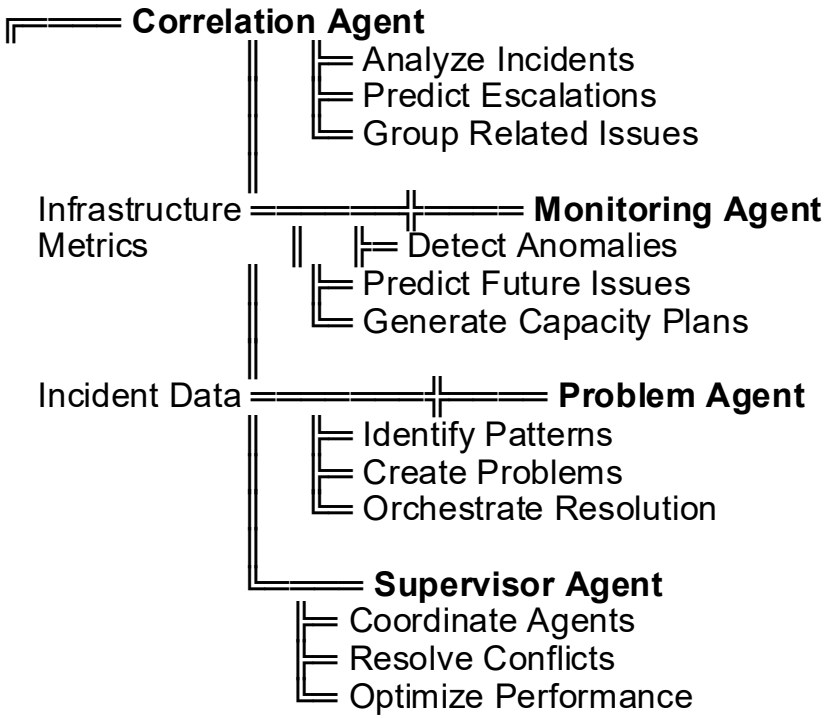
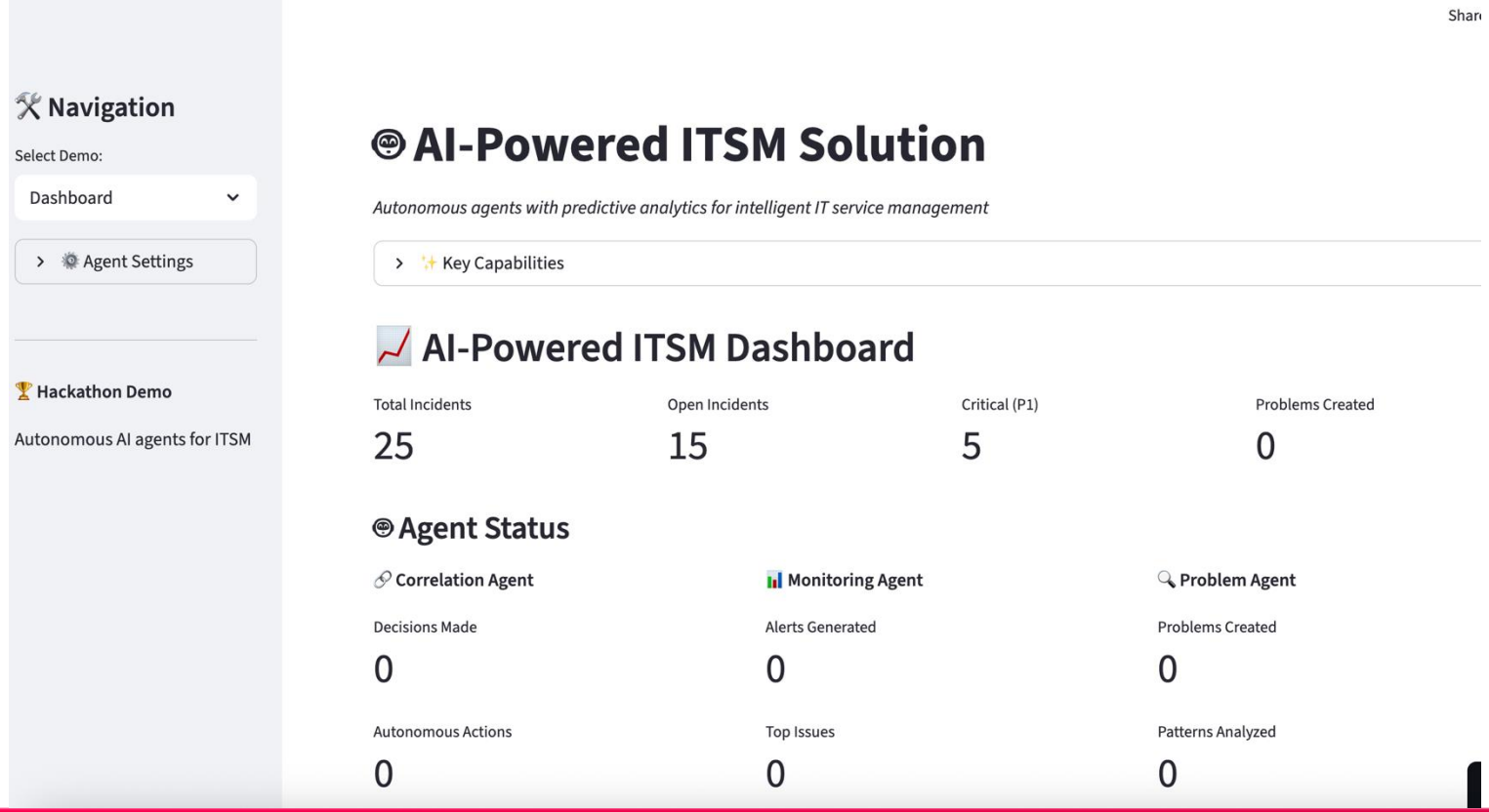
Use-case diagram of the proposed solution



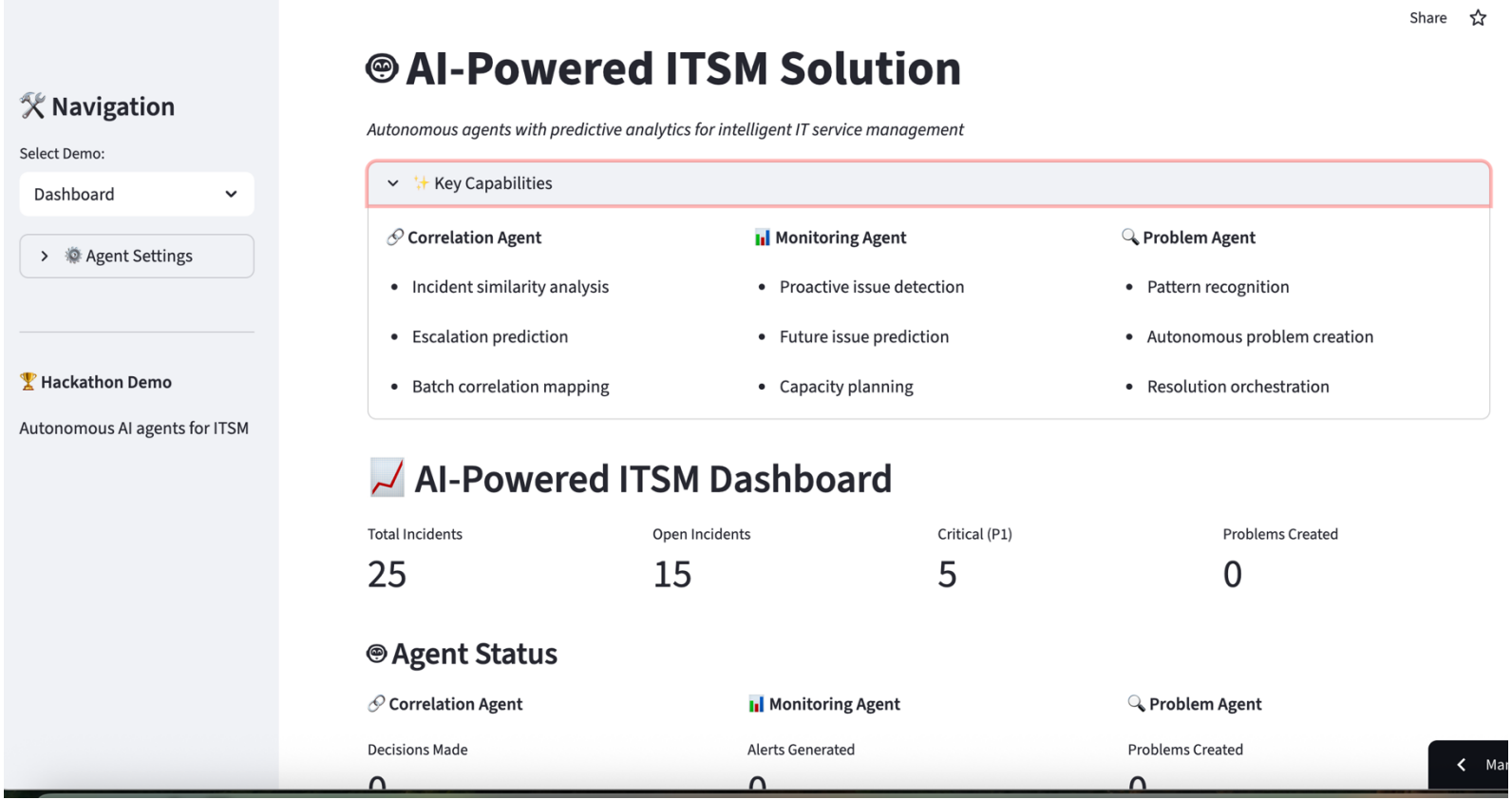
Use Case diagram of the proposed solution(cont'd)



Wireframe :screenshot of prototype



Wireframe :screenshot of prototype (cont'd)



Architecture diagram of the proposed solution

Technologies used in the working prototype:

Python 3.11 - Core language
Streamlit - Dashboard framework
Pandas/NumPy - Data processing
Scikit-learn - ML algorithms
JSON - Sample data storage
Custom Algorithms - Correlation, anomaly detection, pattern analysis
Object-Oriented Design - Agent classes and models
Statistical Analysis - Similarity scoring

Technologies to be used in the solution:

Proposed Production (Future AWS Integration):

Amazon Bedrock AgentCore - Multi-agent orchestration

Amazon Q , Kiro - Intelligent processing, Coding

AWS Lambda, DynamoDB, S3 - Cloud infrastructure

SageMaker, Comprehend - Advanced AI/ML

Add as per the requirements for the hackathon:

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THANK YOU