WeekendWatchAI: Proactive Weekend Application Support

Revolutionizing Error Detection and Resolution with AI

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Problem with Weekend Support

Challenges

- Delayed error detection prolongs downtime
- Manual resolution increases response times
- Limited staffing reduces support availability

Impact

- These issues culminate in reduced reliability and user dissatisfaction, severely impacting weekend operations and business continuity.

Our Solution: WeekendWatchAI

- Real-time log monitoring with machine learning anomaly detection
- Automated error alerts delivered via server-sent events and modal dialogs
- AI-powered fix suggestions powered by Gemini API

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How WeekendWatchAI Works

1. Log Capture

- System logs capture typical errors like SyntaxError and ValueError in real-time.

2. Anomaly Prediction

- ML model analyzes logs to detect suspicious anomalies and error patterns.

3. Anomaly Fix

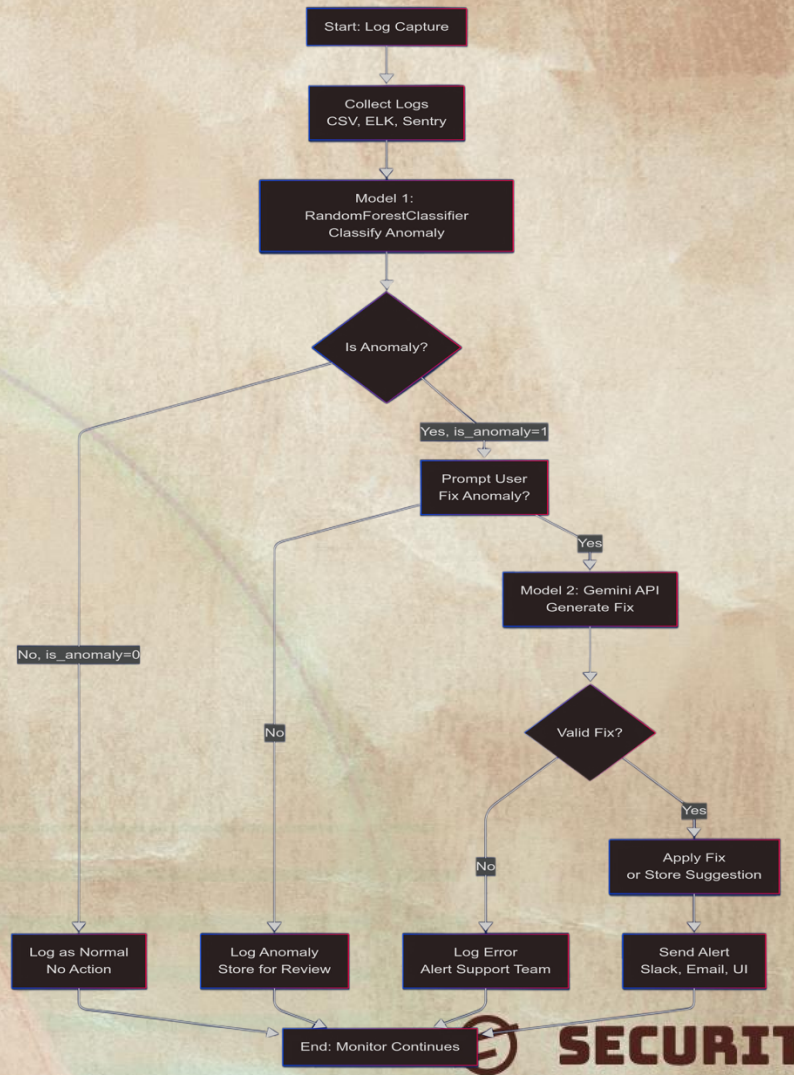
- Alerts are sent instantly to the frontend via server-sent events for immediate user attention.

4. User Approval

- Users review and approve AI-generated fix suggestions from the Gemini API.

5. Automated Resolution

- Approved fixes are applied with minimal downtime, ensuring continuous uptime.



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System Architecture & Technology Stack

Frontend

- Uses HTML, CSS, and JavaScript to display modal alerts and interactive UI.

Backend & ML

- Flask (Python) processes logs using a RandomForestClassifier with TfidfVectorizer for anomaly detection.

AI Integration

- Gemini API generates suggested code fixes based on detected errors, enhancing automation and accuracy.

Data

- Application logs stored in app.log and processed using monitor_logs.py for continuous learning and detection.

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Future Plans & Enhancements

24/7 Support Expansion

- Extend AI monitoring and support capabilities beyond weekends to full continuous availability.

API Integrations

- Integrate with GitHub and additional APIs for seamless code updates and broader scope.

Improving Accuracy and efficiency of the Models.

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Thank You