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Overnight Hackathon

≪Coding Club≫

8th mile

Moonwalkers

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Problem Statement

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Agricultural Input Subsidy Leakage Detection

- The Indian government provides large fertilizer and input subsidies to farmers through registered dealers, but a significant portion is leaked via inflated beneficiary lists, ghost farmers, and diversion of subsidised inputs to the open market.
- Current controls focus only on “input side” records (who bought subsidised fertilizer), with very weak visibility into whether those inputs translate into reasonable crop output in that region and season.
- As a result, honest farmers face stock shortages and delayed access to subsidies, while networks of dealers and fake beneficiaries repeatedly exploit the system without being detected as a pattern.

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Proposed Solution

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Three Layer Verification

- Cross-checks dealer sale records
- Farmer output logs
- Regional yield benchmarks.

Risk Scoring

- Calculates risk levels by comparing input use vs. actual yield and seasonal patterns.

Clasification Attributes

- Green = normal
- Yellow = monitor
- Red = audit & investigation.

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Key Features

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- Input–Output Linking : Connects subsidies used to actual crop yields to detect ghost beneficiaries and non-agricultural diversion.
- Explainable Scores: Shows clear reasons for risk.
- Unique proposition : rather than trying to make the system more reliable by authentication at farmers end(output), we add a risk assesment at the dealer’s side.

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System Architecture

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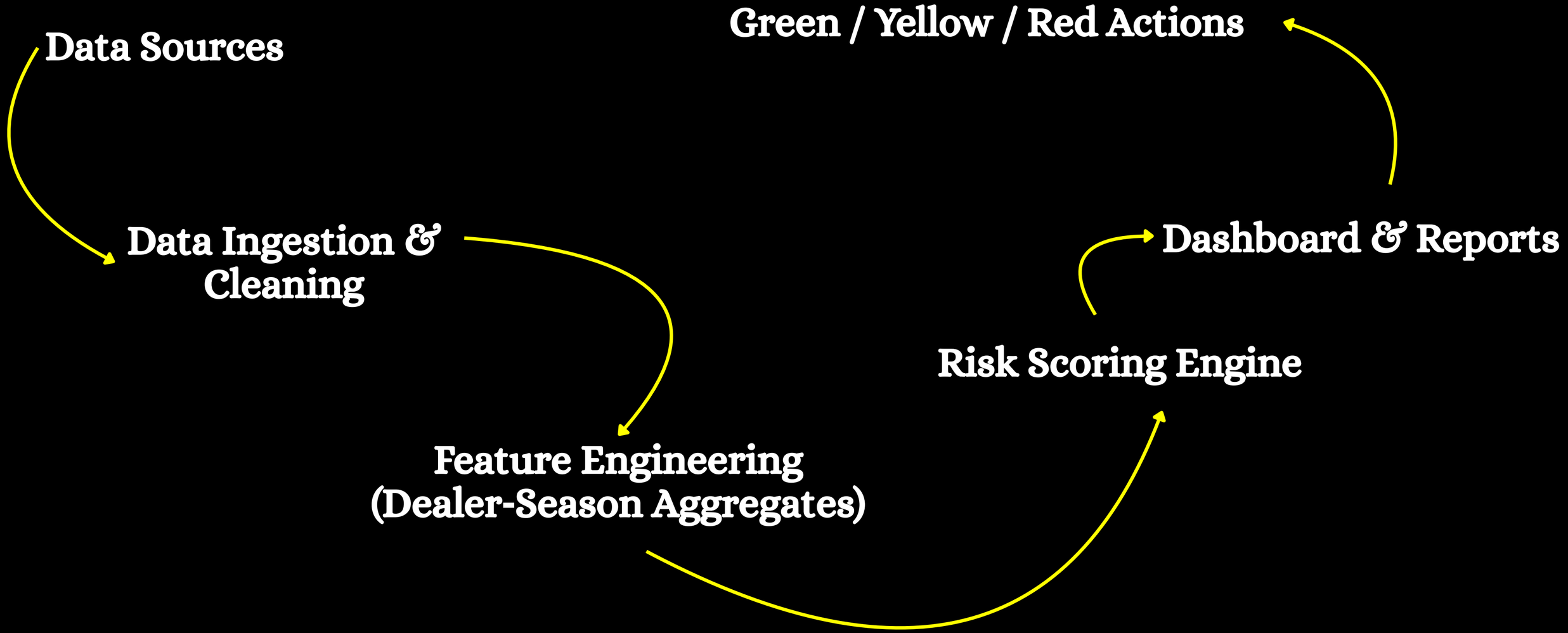

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Tech Stack

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- Python/SQL integrated database management system
- Python libraries and modules
- ID3 decision tree algorithm(initial idea)
- Streamlit

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Challenges Faced

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- Actual individual data is not accessible in order to train any ML model. We have used minimal ML methods, paving the path for future scope.

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Future Scope

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- Real-Time integration with actual government data (per transaction per user basis)
- Integrating hardware and software for our solution (creating an app, GPS trackers etc).

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Thank You