AAGI Knowledge Chat

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AAGI
Analytics for the Australian Grains Industry

Project Overview

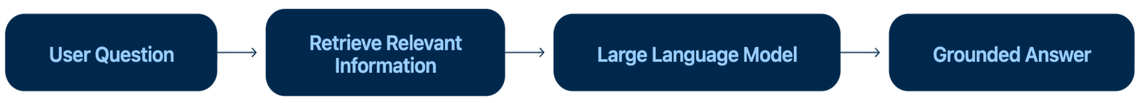
Analytics for the Australian Grains Industry (AAGI) generates substantial organisational knowledge across research projects, institutions and teams. However, this information is distributed across multiple platforms and repositories, making it difficult to discover relevant research, identify expertise and share knowledge efficiently.

AAGI Knowledge Chat aims to address these challenges through an AI powered knowledge assistant using Retrieval-Augmented Generation (RAG), enabling users to access and synthesise organisational knowledge through natural language queries.

1. Aim

The aim is to develop a RAG enabled organisational knowledge management system that consolidates access to AAGI's distributed knowledge and improves information discoverability. This enables users to discover research, identify expertise and synthesise information across projects through natural language queries, without manually searching multiple sources.

2. Proposed solution



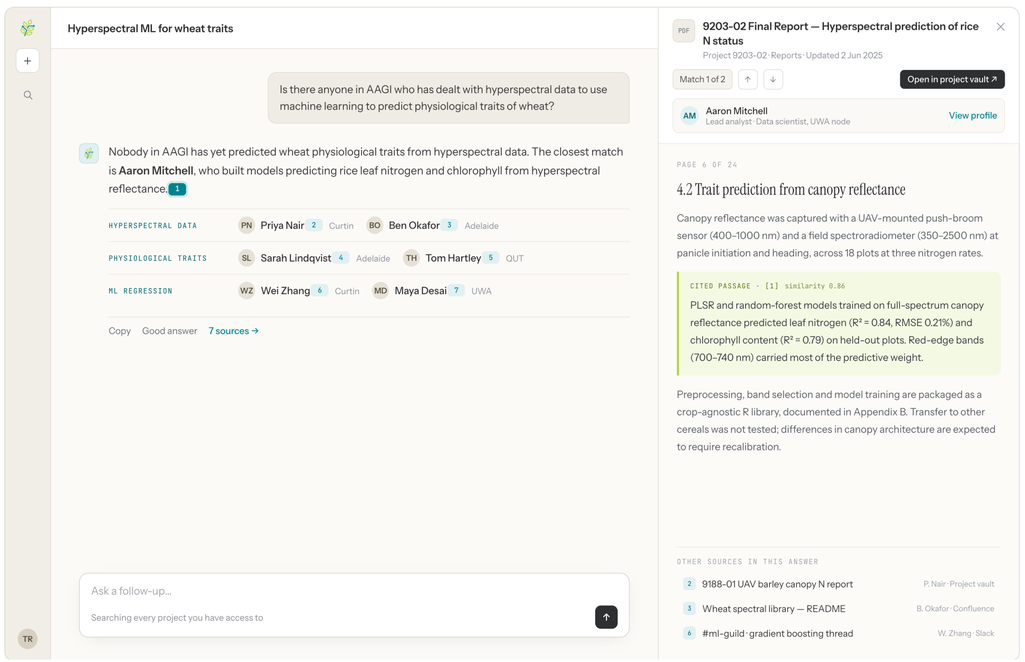
RAG grounds responses in external knowledge rather than relying only on the LLM.

Why go beyond basic RAG?

Complex queries often require:
- Understanding intent.
- Planning or reformulating the query.
- Checking whether enough evidence was found.
- Retrying retrieval when evidence is insufficient.
- Validating the final response.

Agentic RAG adds specialised reasoning steps around retrieval and generation, while the graph-based workflow keeps those steps controlled and predictable.

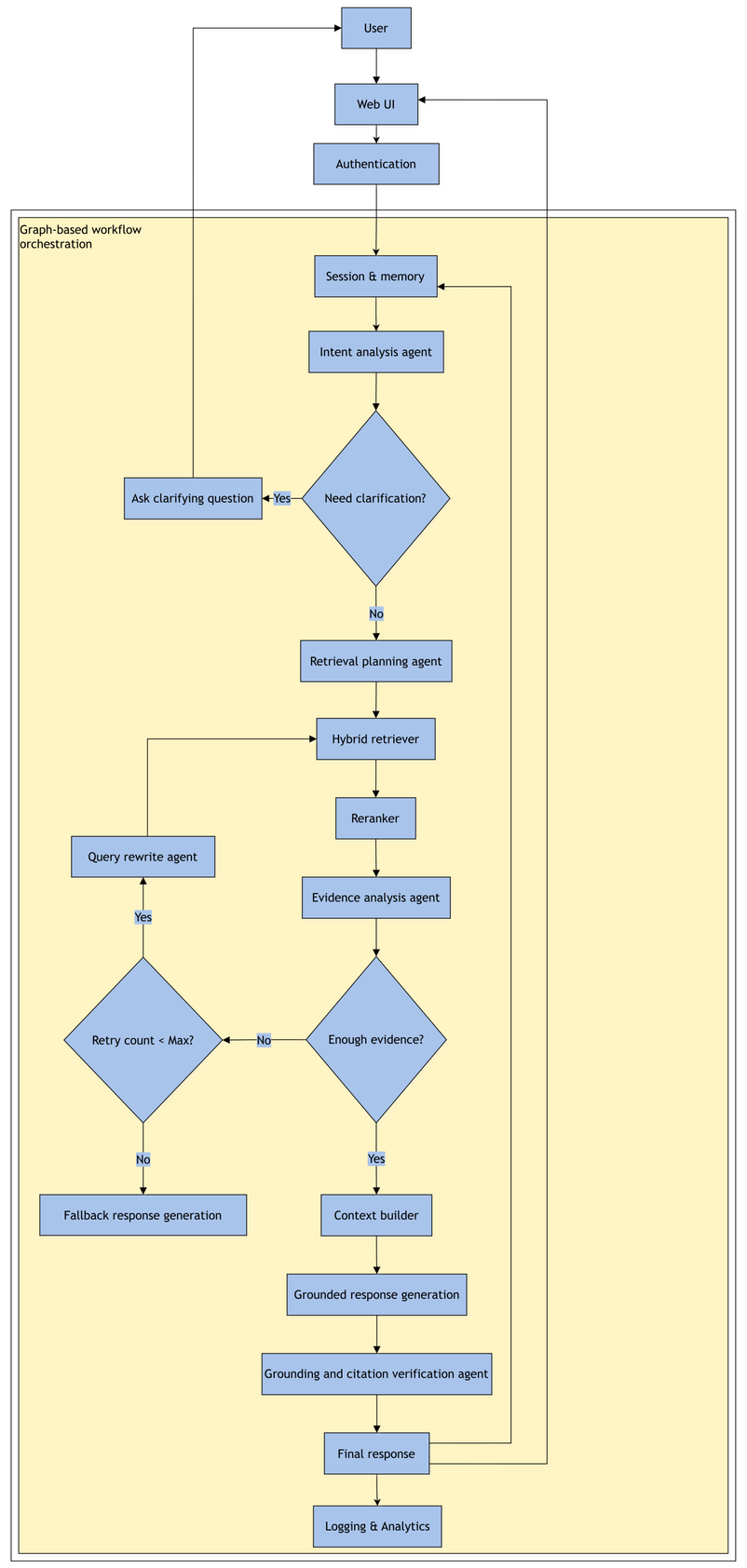
3. AAGI Knowledge Chat



4. Features

- **Knowledge discovery** - Find relevant projects, reports and previous research.
- **Capability discovery** - Identify expertise and potential collaborators across AAGI.
- **Cross-project synthesis** - Connect information contained across multiple nodes and projects.
- **Faster onboarding** - Quickly find templates, examples and previous work to help new team members get up to speed.

5. Approach



6. Industry Impact

AAGI Knowledge Chat aims to improve research efficiency across the Australian grains industry by enhancing access to organisational knowledge, reducing duplicated effort and strengthening collaboration between research partners. By improving cross-project visibility and supporting evidence-informed decision-making, the system enables more effective use of existing research and expertise. The approach also offers potential for broader adoption across agricultural research organisations, supporting knowledge sharing, innovation and improved research outcomes.

GRDC Grains Research & Development Corporation | Adelaide University | Curtin University | The University of Queensland Australia

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