IBSS Financial Trading Floor Smart Copilot — AI-Enabled Administrative Application for Laboratory and Teaching Space Management

Xiangyun Lu

International Business School Suzhou

Supported by LM

1. Background

As the usage frequency of the IBSS Financial Trading Laboratory at Xi’ an Jiaotong-Liverpool University (XJTLU) increases in teaching, research, and external collaboration activities, laboratory reservation management, resource coordination, and information consultation have become increasingly complex. The original management relied primarily on emails, WeChat groups, and offline communication to handle database inquiries, lab reservations, and course or activity organization, presenting the following issues:

- **Dispersed communication channels**: Information is spread across multiple platforms, making key details easy to miss and increasing communication costs.
- **Processes dependent on human experience**: Activity types, approval

requirements, and resource arrangements lack unified standards; new staff or activities require repeated confirmation.

• **Low response efficiency**: Queries and reservations often require multiple rounds of manual responses, making it difficult to meet teaching and activity needs promptly.

• **Difficulty in capturing and reusing experience**: Lab management experience is scattered across individuals and historical emails, hindering long-term standardized operations.

Given this context, IBSS needed an intelligent solution capable of integrating laboratory knowledge, standardizing management processes, and significantly reducing administrative communication costs to support efficient and sustainable laboratory operations.

2. Solutions

This case implements the **Trading Floor Smart Copilot** to systematically optimize the original manual communication–based laboratory management process. Core solutions include:

1. **Unified entry for intelligent consultation and task handling**

   AI dialogue serves as a single entry point, integrating high-frequency administrative tasks such as lab database inquiries, equipment and seat information, and activity/space reservations,

reducing reliance on emails, WeChat groups, and offline communication, achieving "one entry solves multiple needs."

2. **Intent-based automatic workflow routing**

   The system automatically identifies user request types (e.g., database queries, lab usage consultation, activity or course reservations) and guides users into corresponding standardized workflows, avoiding manual judgment and repeated confirmations.

3. **Standardized and structured activity management workflows**

   For the complexity and diversity of laboratory activities, a classification framework covering short-term experiences, medium- and long-term courses, long-term projects, and customized needs was established. The system collects key information step by step and generates structured activity requests, significantly reducing administrative organization costs.

4. **Knowledge-base–driven standardized responses**

   Lab usage rules, database operation guides, and approval procedures are stored in a structured knowledge base to ensure consistency and standardization in AI agent outputs, reducing management fluctuations caused by personnel changes or experience differences.

5. **Automated closed-loop task flow**

   After collecting complete information, the system automatically generates and sends standardized task requests to the lab’ s shared mailbox or relevant management nodes, forming a “consultation—confirmation—submission” closed-loop process and improving overall operational efficiency.

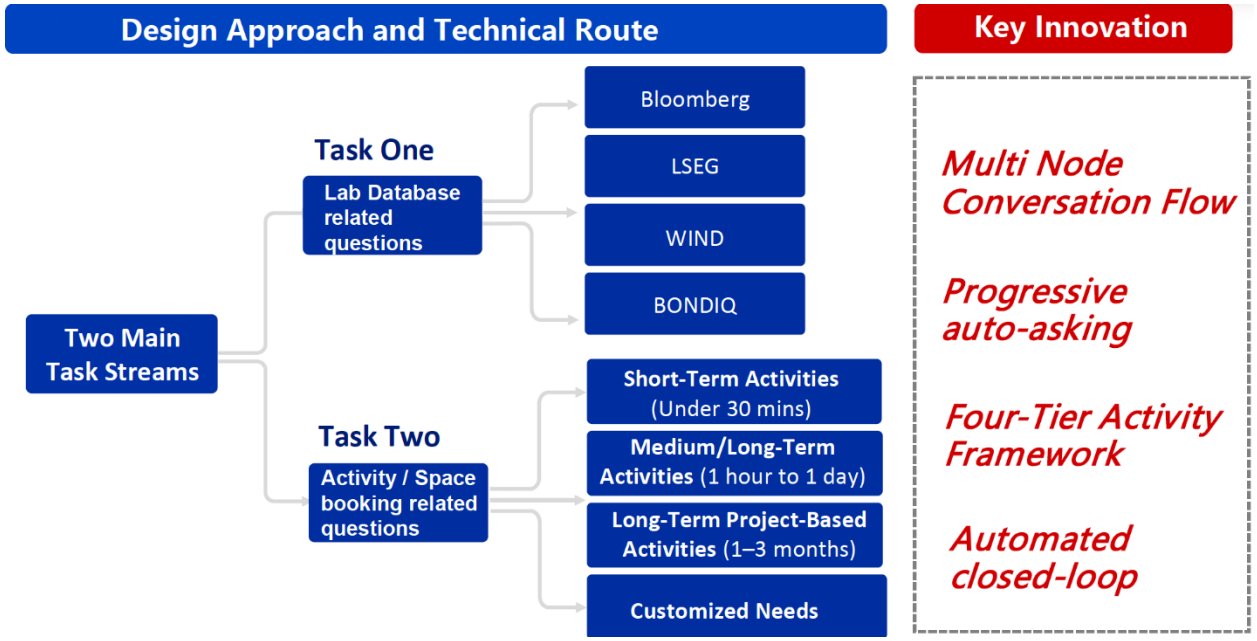

Figure 14-1 Trading Floor Smart Copilot Technical Approach and Roadmap

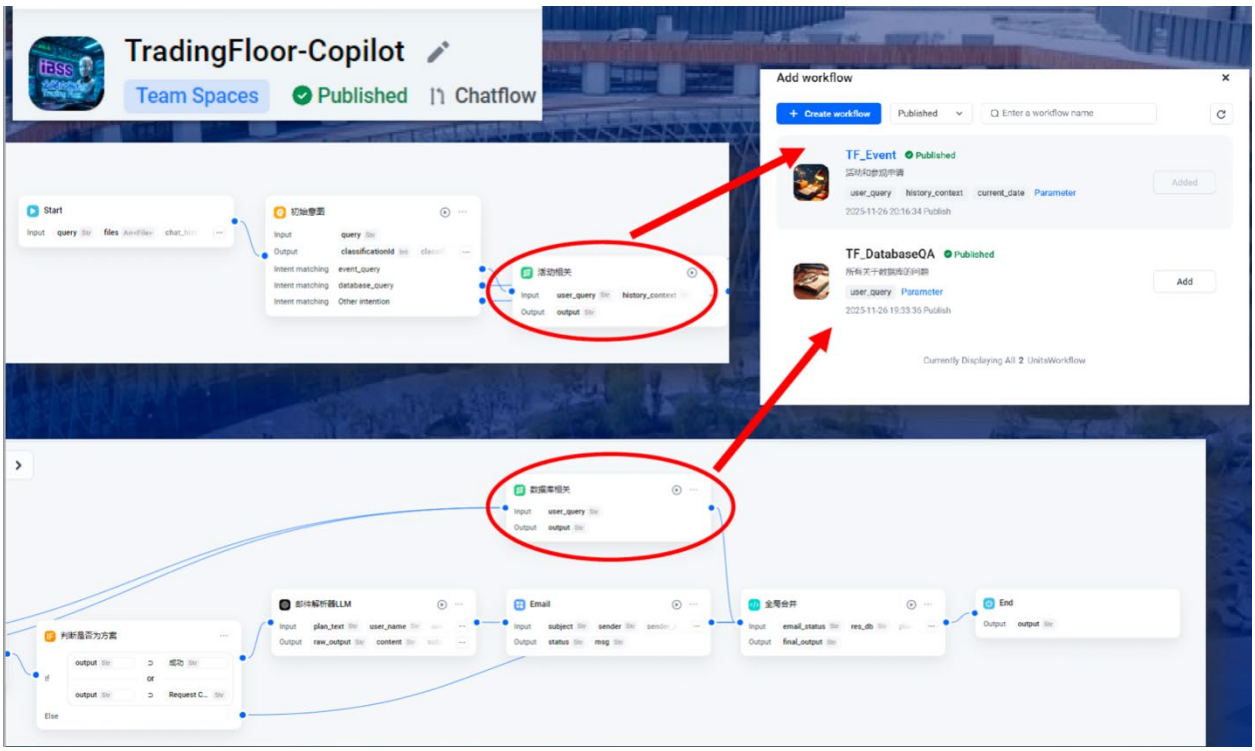

Figure 14-2 Workflow for the use of Trading Floor Smart Copilot

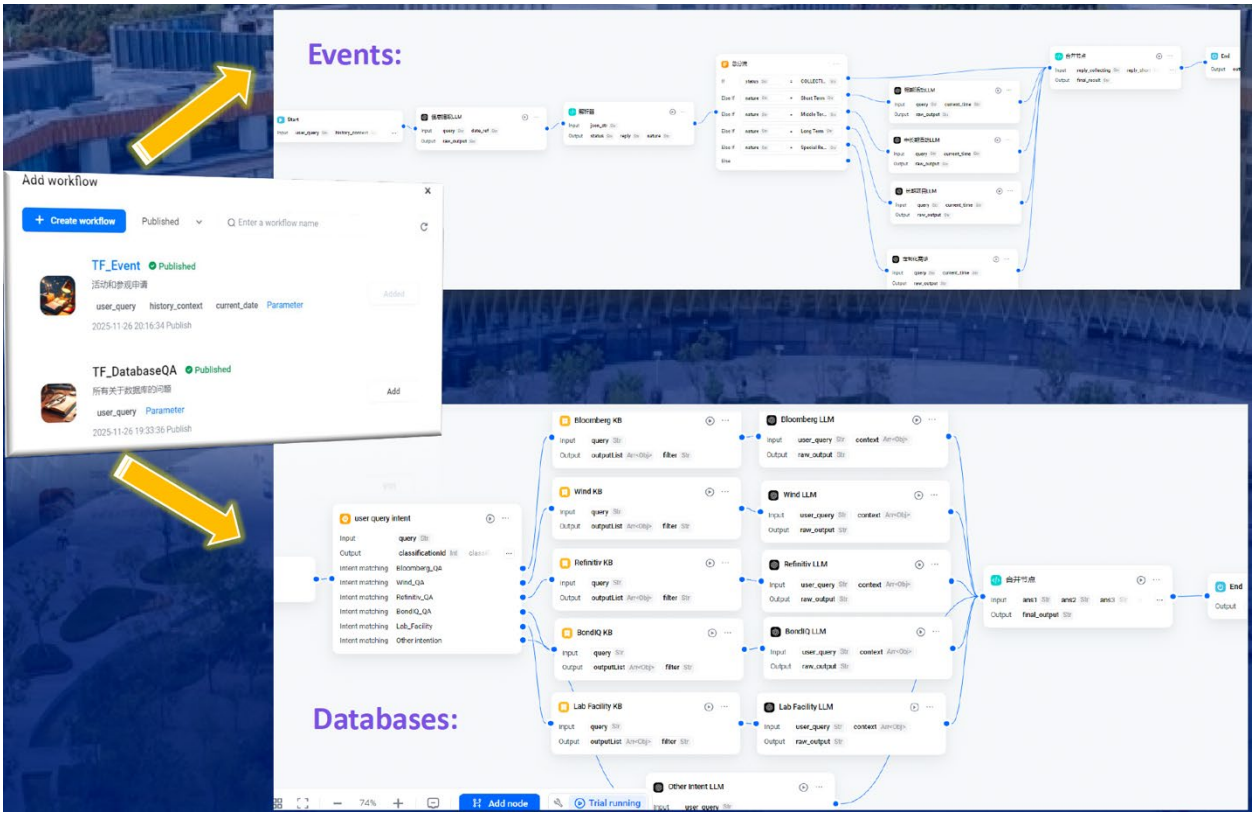

Figure 14-3 Specific Logic of Workflow

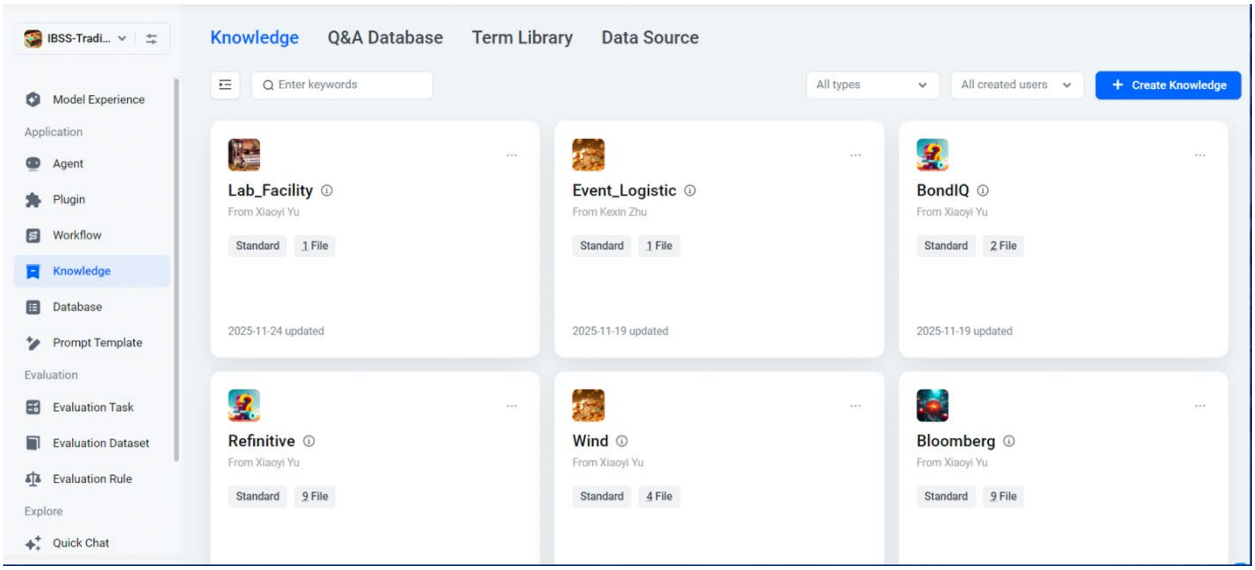

Figure 14-4 Knowledge Base of Trading Floor Smart Copilot Knowledge Base

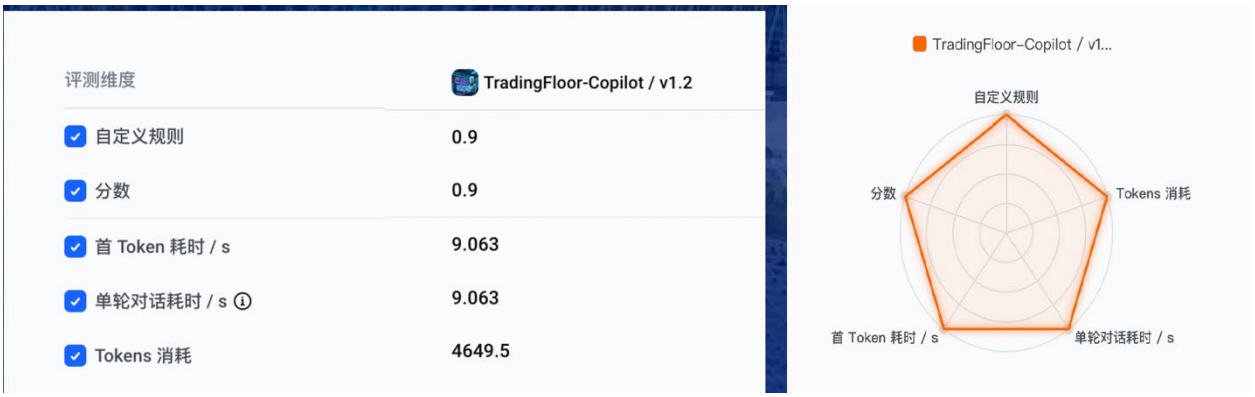

Figure 14-5 Evaluation Results of Trading Floor Smart Copilot

3. Outcomes and Benefits

After implementation, this case achieved significant improvements in laboratory administrative management and service efficiency, mainly reflected in the following aspects:

1. **Significantly reduced manual communication and coordination costs**

   Tasks that previously required multiple rounds of email or instant messaging confirmation can now be completed in a single dialogue, reducing repetitive communication and freeing administrative and technical staff time.

2. **Improved response efficiency and service experience**

   Lab consultations and reservation response times have been reduced from "hours or days" to "instant feedback," effectively supporting high-frequency teaching activities, temporary course arrangements, and external reception needs.

3. **Enhanced lab resource utilization and management standardization**

   Standardized activity classification and structured information submission reduce resource conflicts and information omissions, improving the efficiency of lab spaces, databases, and equipment usage.

4. **Promoted experience capture and sustainable operations**

   Tacit experience is transformed into explicit knowledge bases and workflow rules, reducing reliance on individual experience and providing institutional support for long-term stable lab operations.

5. **Created a replicable and promotable administrative application model**

   The solution’ s modular and standardized design allows promotion to other labs, teaching spaces, or campus resource management scenarios, providing strong demonstration value.

4. Replicability and Promotion Value

This case demonstrates high replicability and promotion value, applicable to various on-campus administrative and teaching support scenarios:

1. **Wide applicability**

   The smart collaboration model is not limited to the Financial Trading Lab; it can be applied to other teaching laboratories, computer rooms, research platforms, public teaching spaces, meeting rooms, and campus reception management, covering high-frequency administrative tasks such as consultation, reservation, approval, and resource coordination.

2. **Modular and standardized design**

   The system is based on a unified architecture of “intent recognition + workflow routing + knowledge-base support.” Each module is relatively independent and can be flexibly

configured according to departmental needs without reconstructing the entire system, reducing promotion costs.

3. **Low dependence on personnel and organization**

   Embedding management experience and workflow rules into the AI agent reduces reliance on individual administrative staff, helping maintain stable service quality during staff changes or organizational expansion.

4. **Alignment with smart campus and digital governance directions**

   The case aligns with the university' s smart campus initiatives and administrative digital transformation, serving as a demonstration of AI-enabled administrative office and space governance, forming a replicable standard at the campus level.

5. Next Steps

Planned optimizations and expansions include:

1. **Expanding applicable scope**

   Promote the smart collaboration assistant to more laboratories and teaching spaces, gradually forming a campus-wide unified AI consultation and reservation service entry.

2. **Enhancing system integration and automation**

   Explore further integration with existing campus systems (e.g., space reservation, schedule management, administrative approval systems) to reduce manual handoffs and achieve higher automation levels.

3. **Continuously updating knowledge base and workflow rules**

   Dynamically update lab rules, approval requirements, and frequently asked questions based on real usage feedback to improve AI agent response accuracy and coverage.

Strengthening governance and compliance mechanisms

While maintaining efficiency gains, further improve permission control, logging, and data compliance mechanisms to ensure safety and controllability in large-scale deployment.