Contribution Web Application

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Tradition

ABSTRACT

The Contribution Web Application was developed for Tradition Brokers (Thailand) Co., Ltd., Chiang Mai Branch to manage internal financial product quotations. The system enables users to enter purchase/sale prices and track calculation results in real time, while providing administrators with tools to monitor status, control operations, and manage users. To overcome the maintainability and scalability issues of the legacy C# Windows platform, the system was redeveloped as a modern web-based application. This new architecture integrates WebSocket for real-time communication, API-based operation and administration, and a Workspace structure for efficient, shared code management. The transition significantly improves long-term maintainability, flexibility, and operational efficiency for both internal users and administrators.

INTRODUCTION

Contribution Web Application is an internal system for Tradition Brokers to manage and track financial product quotations. The legacy C# Windows application faced OS compatibility and scalability limitations. This project migrates the system to a browser-based web application, enabling real-time updates via WebSocket and improving maintainability through a shared workspace structure and CI/CD.

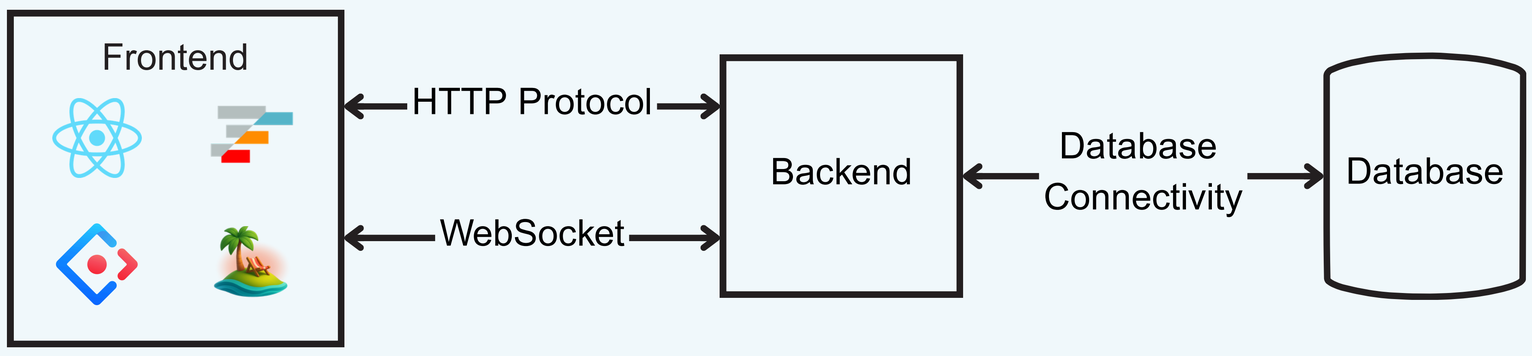
Objectives:

- Migrate from Windows (C#) to a web application (cross-platform access)
- Enable real-time updates and user presence monitoring with WebSocket
- Improve developer productivity with reusable modules, shared components, and CI/CD

METHODOLOGY (Agile/Scrum-based)

Legacy System Analysis & Backlog Refinement → Sprint Planning & Technical Research → Iterative Development (Sprints) → Mentor Code Review (Task-based) → Deployment → Sprint Review & User Feedback

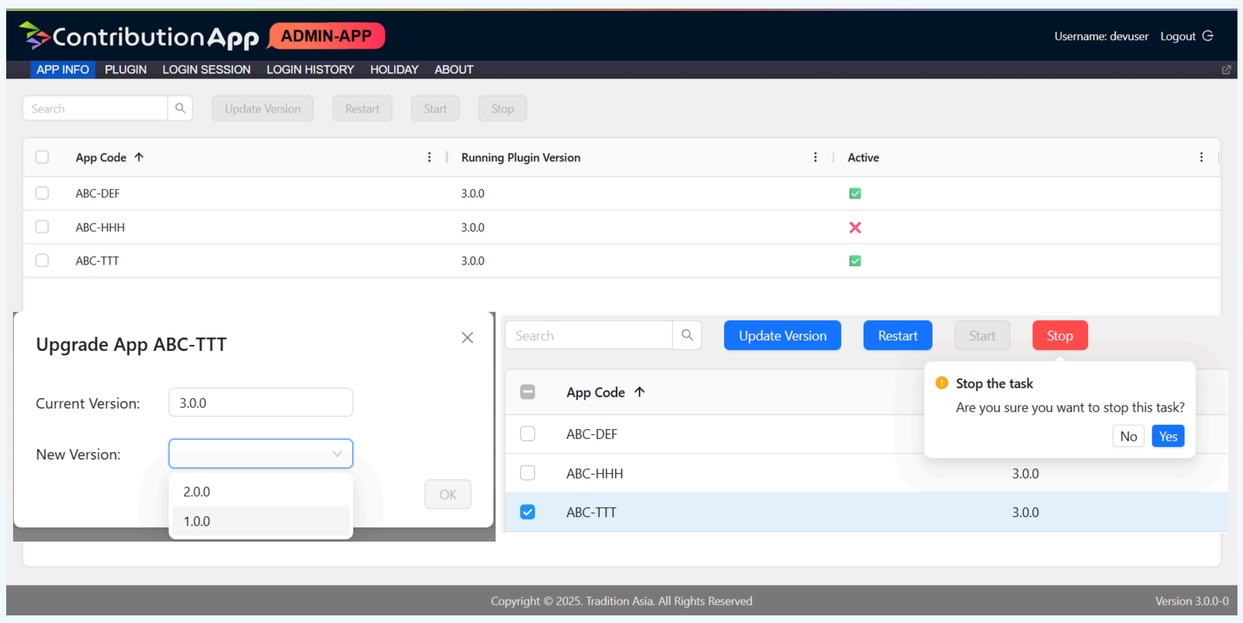
ARCHITECTURE

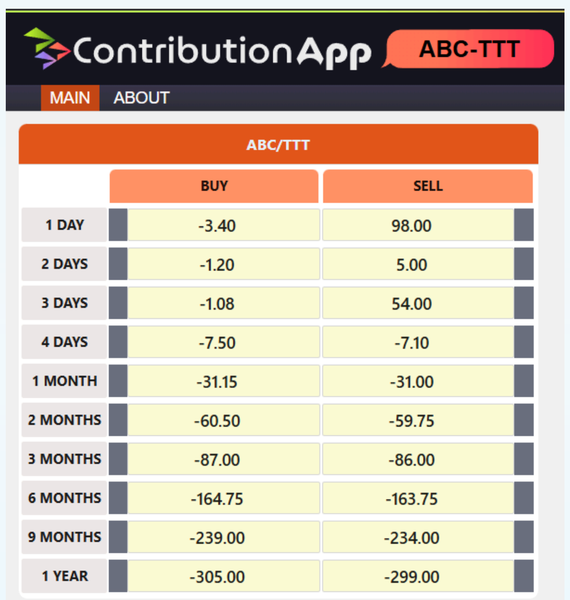


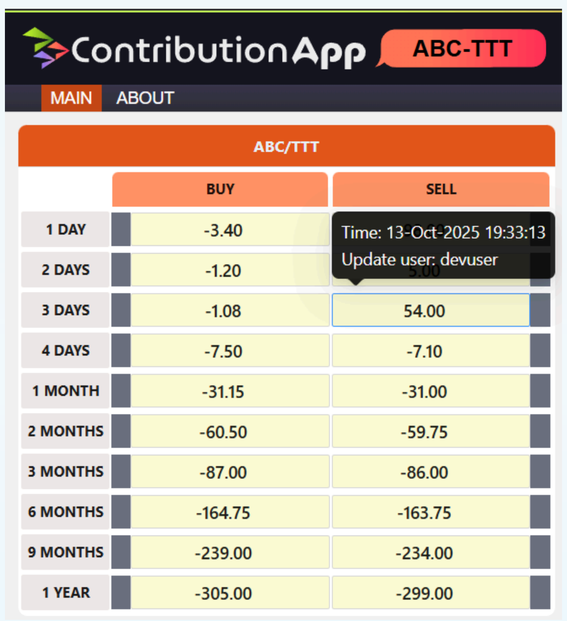
TECHNOLOGY

- WebStorm
- IntelliJ IDEA Ultimate
- React [1]
- Ant Design [2]
- AG Grid React [3]
- Tanstack
- Docker
- Jira

RESULTS







CONCLUSION & DISCUSSION

Deliverables:

- Admin Module: Completed for centralized user and system management.
- User Modules: Core features delivered, providing a scalable foundation for future modules.

Current Status:

- System is in Deployment and User Acceptance Testing (UAT).

Discussion / Recommendations:

- Issue: Initial data fetch may cause noticeable first-load latency.
- Improvements: Implement background preloading at startup and add loading indicators (e.g., skeleton screens) to improve perceived performance and user experience after caching.

REFERENCES

[1] TechUpTH. Introduction to React [Internet]. Available from: https://www.techupth.com/articles/react. Accessed Jul 23, 2025.

[2] Ant Design. Ant Design - A design system for enterprise-level products [Internet]. Available from: https://ant.design. Accessed: Jul 26, 2025.

[3] AG Grid Ltd. AG Grid: The best JavaScript Data Table for building enterprise applications [Internet]. Available from: https://www.ag-grid.com. Accessed: Jul 26, 2025.