Veeva CDB — Clinical Data Review UI

Clinical Database · Veeva Vault Platform

THE PROBLEM

Clinical trial data is generated across multiple disconnected systems — EDC, RTSM, eCOA, labs, imaging, and external vendors. Before Veeva CDB, data managers had to:

- *reconcile data using spreadsheet trackers*
- *run batch exports to review updates*
- *manually detect discrepancies*
- *communicate queries across siloed tools*

*This created **slow review cycles, high manual effort, and delayed database lock**, directly impacting trial timelines.*

*At the same time, reviewers from different functions (data management, medical, biostats) needed a **real-time, collaborative UI** to:*

- *detect new or changed data*
- *raise and resolve queries*
- *monitor study health*

within a single system.

THE SOLUTION

*I built a **full-stack system for the Clinical Data Review workflows** for the CDB (Clinical Database) application.*

*The core challenge was designing a **high-performance, data-dense interface** that could:*

- *display harmonized clinical data from multiple sources*
- *surface change detection in real time*
- *support query lifecycle actions*
- *enable cross-functional collaboration*

Frontend

- *Developed modular UI in **React.js***
- *Implemented complex, state-driven data review screens*
- *Built interactive tables, filters, and review workflows for large clinical datasets*
- *Focused on responsiveness and usability for data managers reviewing high-volume studies*

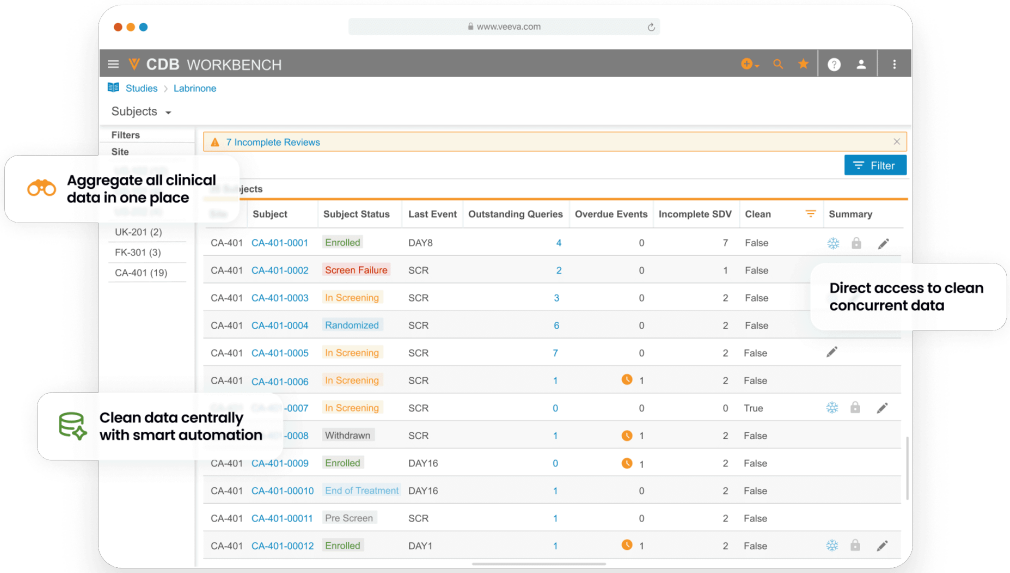
Backend Integration

- *Consumed **Java APIs** for clinical data and query management*
- *Worked with a **SQL data model** aligned to the study backbone*
- *Leveraged **Java Streams** in service logic to process and transform data in a declarative, functional style*
    - *improved readability and maintainability*
    - *enabled efficient aggregation and parallelizable operations*

Data Experience

- *Enabled **real-time visibility of new and updated data***
- *Supported **automated discrepancy detection and query generation***

- *Helped replace spreadsheet-based workflows with an in-app workbench*



THE PROOF

The UI shipped as part of the production release of Veeva Systems's clinical data platform and is used by sponsor and CRO study teams to:

- *review and clean data across sources in one environment*
- *collaborate on queries in real time*
- *monitor study progress through dashboards*

Contributing to outcomes such as:

- ***30–50% reduction in manual data cleaning effort***

- ***faster time to database lock***
- ***real-time access to aggregated clinical data***

STACK

React.js · Java · Java Streams · SQL · REST APIs · Veeva Vault Platform

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TL;DR (Summary)

As a Software Engineer at Veeva, I built React-based data review workflows for Veeva's clinical data platform, integrating with Java/SQL services to enable real-time aggregation, discrepancy detection, and cross-functional query management across EDC and third-party sources.