



Web Application For Knockout Mouse Database & Order Tracking

Client Overview

The client is a leading research institute and has the world's largest library of mouse-knockout embryonic stem cells (ES) with a total over 350,000+ clones. The client serves the international scientific community as a major source of genetically modified ES cells and knockout mice for human and veterinary diseases.

By facilitating the translational research through functional genomics client is pioneering the development of life-changing medical breakthroughs and advancing personalized medicine on a global scale.

Challenges

The client's mouse knockout database included links identifying embryonic stem cell clones from the C57BL/6 and 129 gene trap libraries, as well as more than 2,500 established mouse knockout lines from the 129 line. Together, these resources cover more than 13,000 mouse genes and can be searched by gene or protein sequence, accession number, chromosome, gene ID or keyword.

Client was unable to manage this massive genomic database efficiently and tracking the incoming orders and their status was posing a big challenge. Also such a massive sequencing data created huge data processing bottlenecks for the users.

Solution (Web Portal for knockout mouse database & order tracking)

Optra helped client by building an easily accessible, customizable, and powerful portal in an open source technology to easily handle their gigantic biological database and also track the orders & the status for genetically modified mouse and inbred mouse strains.

Optra architects proposed a customized content management system. The approach to portal architecture was focused on providing the freedom for improvements, functional extensions and new systems integration. The portal architecture was delivered with server topology design and multiple deployments & configuration services. Optra team ensured that the portal handles high loads by implementing load balancing techniques, database performance optimization and best- practice programming patterns.

Portal was designed to gather and consolidate the database into one repository; with multiple functionalities- registering the order from the user, track the status for each individual order, enhanced the search options for better usability. Admin role was implemented to track the status, track assignee and the due date of each task/order.

The solution required associated management tools allowing the administration of orders from users as well as from institutions. The application developed in such a way that it allowed site administrators to specify the allowable sales and approval routes in tracking system.

Technology Environment

- ✓ MYSQL Workbench for the database.
- ✓ Tortoise SVN used for creating repository.
- ✓ JAVA, JSF, Spring, Hibernate

Benefits

- Optra's cutting-edge software engineering skills, experience and resources – together with ready 'Building Blocks' helped in faster turn-around and providing a cost-effective custom solution.
- A multi-disciplinary team of deep domain professionals together with software specialist was key factor in establishing the client's requirements successfully to deliver the expectations.
- OptiShore™ global delivery model ensured 50% costs savings with 100% assured quality and 200% enhanced production cycle
- "Work for Hire" model provided definitive protection of client's intellectual property (IP), without increasing their own headcount.

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About Optra Systems

Optra Systems is an ISO-certified global organization with deep domain expertise in medical devices, lab automation, life science informatics and healthcare IT solutions. The company provides a fully-scalable, cost-effective OptiShore™ delivery model. This enables customers to choose the optimal balance between on-site, on-shore, and off-shore development that will best address their budget and collaboration requirements. With Optra Systems, customers are able to shrink their time-to-market by leveraging practical, building-block based solutions. Committed to clear communication and total transparency, the company consistently meets or exceeds its clients' expectations. Offering a full complement of expert engineering and consulting services, Optra Systems is aligned to real business needs applied over the entire product development lifecycle. The robust, scalable and efficient IT infrastructure of the company, together with its outstanding project management team, consistently ensures superior results. Optra Systems' global delivery model helps its customers cut costs by about 50% without compromising on quality and realize a 200% improved production cycle.

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Contact Optra Systems Today

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