MOBILE APPLICATION DEVELOPMENT FOR A GLOBAL LEADER IN DNA ANALYSIS

Accelerated DNA profile search by 95% with an optimized process

Client Background

Our client is a global leader in DNA analysis technology, designing products and services to improve public safety. The client used a standalone web application to interact with the DNA data generated by the machine. The specialized machine takes samples from the human body and generates DNA profiles from the samples. The key objectives of the client included:

- Retitle the existing web application with a new name
- Optimize the DNA profile search process   viz. importing DNA samples from the machine to the application's database, searching DNA profiles present in the application database
- Design and development of a mobile application and integration with the web application

Xoriant Solution | Key Contributions

The client chose Xoriant as the technology partner for our combined healthcare delivery experience and subject matter expert with product engineering, user experience, data visualizations, and cloud technologies. Xoriant team was actively involved in the mobile application development to achieve the client's business goals. Our key contributions to the client included:

- Creating new project architecture from scratch and renaming all the references and namespaces to match the new product name suggested by the client.
- Refactoring the existing code base to separate individual areas of concerns and to extract components for reusability.

KEY BENEFITS

- Increased customer base with an optimized, simpler, and superior application user experience.
- Achieved faster and easier access to information by moving the desktop app to mobile and web.
- Improved DNA profile search process by 95% from 4 minutes to less than 10 seconds.
- Enhanced reporting in terms of DNA profile matching.

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- Performing code cleaning to remove unnecessary screens.
- Implementing copyrights signatures in the entire code base.
- Optimizing UI response by implementing lazy loading in many places in the application using Pagination.
- Creating a new, highly efficient, and flexible data structure for searching DNA profiles using MongoDB.
- Implementing an optimized query for complex DNA profile matching algorithm.
- Implementing parallel execution to initiate searches across multiple databases to reduce search time.
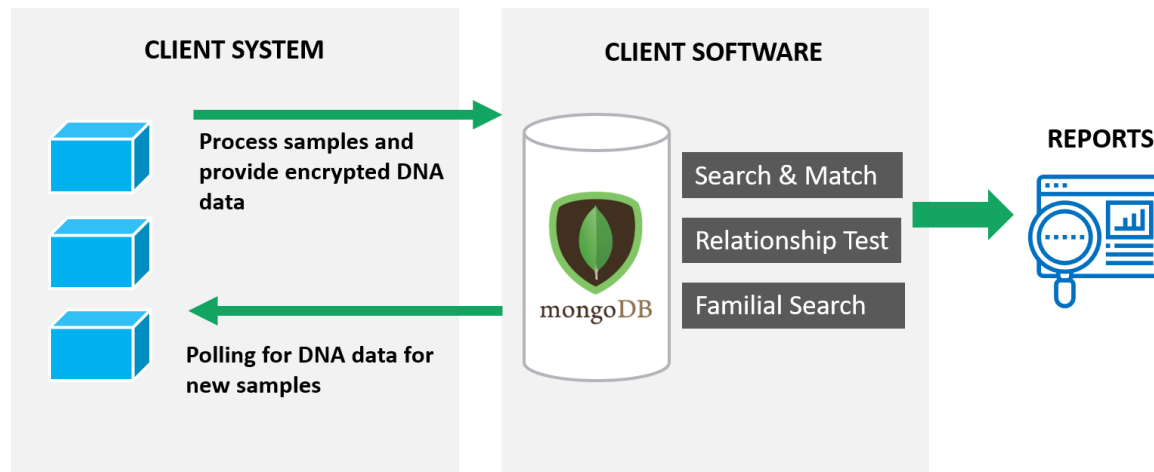
Client Testimonial

Xoriant engineering expertise provided a holistic roadmap for our rebranding project with an excellent application that made complex DNA profile search in less than 10 seconds, enhanced user experience and reporting while ensuring excellence in delivery.

High Level Architecture

CLIENT SYSTEM

Process samples and provide encrypted DNA data

Polling for DNA data for new samples

CLIENT SOFTWARE

mongoDB

Search & Match

Relationship Test

Familial Search

REPORTS

Technology Stack

WPF (Windows Presentation Foundation) | C# | .Net 4.5 | Microsoft Visual Studio 2015 Community Edition | MongoDB | SQLite | SVN | JIRA

Xoriant is a product engineering, software development and technology services company, serving technology startups as well as mid-size to large corporations. We offer a flexible blend of onsite, offsite and offshore services from our eight global delivery centers with over 3600 software professionals. Xoriant has deep client relationships spanning over 30 years with various clients ranging from startups to Fortune 100 companies.