

Polaris Software Lab (Woodbridge, NJ) – 10/04 to 1/06

Consultant at Merck Research Labs in the Molecular Profiling and Proteomics group. Worked closely with senior research scientists and the Thermo Professional Services team to successfully install and configure the Nautilus LIMS (Lab Information Management System). Developed major extensions to the Nautilus core client, including an Excel sample loader which enables the users to input sample information received as spreadsheets from collaborators directly into the LIMS. This facility greatly reduces time and errors. Developed an Excel reporting extension which is template driven and user modifiable. Also added a sample splitting extension which simplifies creating child aliquots while maintaining ancestral relationships and volume changes. Conceived and implemented a complete wireless PDA add on application with optimal human factors which utilizes the Symbol MC50's built in barcode scanner to provide sample inventory control and freezer management to users while in the lab, where it is most needed. A piece of the PDA code developed includes a powerful query facility. It allows users to easily select samples or boxes using one or more of 20 possible criteria without requiring any knowledge of SQL or the complex schema design of the Nautilus database. The query function was ported and is also available as an extension to the PC client. These unique PDA capabilities are leading edge enhancements not currently available in any commercial LIMS on the market. The tight integration of the wireless PDA/scanner into a standard LIMS provides Merck with a distinct competitive advantage, finally transforming it into a useful tool in a research lab environment. Worked on interfacing the LIMS with other lab equipment, sample annotation, compound, and bioinformatics systems within the Merck IT domain. Investigating the use of alternate algorithms and optimization techniques to improve the performance and accuracy of the current biomarker analysis software and workflows.

Environment: Visual Basic MSDE Version 7.1 (.NET 1.1), Windows XP Pro 5.1, Windows CE 4.2, Symbol MC50 PDA (802.11b, Bluetooth, Linear Barcode Scanner), Oracle 9i, 10g, Oracle App Server Containers for J2EE 10g, SQL, PL/SQL, SQLPLUS, Navigator 4.4, Thermo Nautilus LIMS 7.0, Microsoft Office 10, Excel 2002 10.6, HP ProLiant cluster, SuSe Linux 8.1, perl v5.8, Apache Version 1.3.26, MS Server 2003 EE 5.2.3 / IIS, Sequest v.27, Peptide/Protein Prophet, GCC version 3.2.2, JSP, ASP, XML, HTML, ZPL (Zebra barcode Printer Language), Merck SLC