

DEVELOPMENT OF A HEALTH DATA MANAGEMENT SYSTEM

Client Profile:

A Medical Device Company seeking to provide software technology for blood glucose measurements, insulin data and other diabetes related patient data management.

Technologies Used:

Use Case Analysis, UML, Requirements Engineering, Model Maker, knowledge of Clinical Diagnostics Device functionality and interfaces, C/C++, .NET Framework, Delphi, SQL, and Mercury Quality Center.

Project Summary:

The client needed a state-of-the-art web enabled health data management system in order to maintain their market leadership and provide their patients a system that efficiently tracks results and shares data with Healthcare Providers. A comprehensive software requirements specification (SRS) document was required to support system development. The SRS is the primary reference for the development of the application design and contained an accurate and detailed description of system behavior. The SRS is also the primary source from which the Development Team produces a strategy for testing the end product. The development effort included a PC based client application and a backend database that communicates via a Web interface in order to share data among subscribers pursuant to HIPAA guidelines. Working with the client, The ASHVINS Group managed and directed the activities necessary to develop the application. These activities included many processes: Facilitated Use Case Analysis and Requirements Review Sessions. Clearly defined the requirements for the development of a multi-user intuitive application that includes a Windows based front end, with a web enabled back-end Host System. This application synchronizes data elements between the home user and the Healthcare Provider so that both have visibility to the same data. Data is uploaded directly from glucose-related medical devices to the Windows application to simplify data entry. Provided requirements that will ensure the application's enhanced flexibility and scalability for current and future technology. Developed the application in a phased approach based on the Rational Unified Process. Prepared, executed, and directed the software verification. Prepared documentation based on FDA Guidelines for application development and validation for Medical Devices. The team based management approach incorporating both an ASHVINS development team and a client project team greatly contributed to defining and developing an innovative, robust, and unique application.