

WIRELESS INTEGRATION OF PORTABLE MEDICAL DEVICES USING BLUETOOTH TECHNOLOGIES

Client Profile:

A global clinical and medical device company that develops personal and portable medical devices. The devices are Bluetooth enabled glucose meters for continuous glucose monitoring. Being one of the most versatile technologies in the wireless market, the Bluetooth technology was chosen by the client to address performance requirements specific to the medical application and because it is a particularly good fit use for models demanding high mobility, long battery life and limited infrastructure support.

Technologies Used:

Visual C++, Bluetooth Technologies, UML, Broadcom Bluetooth Development Toolkit, Mercury Quality Center

Project Summary:

ASHVINS Group was contracted by the client to develop the wireless interface with the client's medical devices that utilize Bluetooth technology. The interface is acting as the primary data extraction point from the system and acts as a source of device data upload for the client's Data Management Solution. The interface is architected around a core Bluetooth SPP communication engine developed in-house. This engine is wrapped into a data validation layer and all was integrated into a data management handler framework. The layer design of the interface provided data de-coupling and low risk upgrades. The Bluetooth communication layer can be easily upgraded to keep pace with the latest Bluetooth protocol developments. Thus, the engine was upgraded from the original Bluetooth 1.1 implementation to 1.2 and later to Bluetooth 2.0. The Bluetooth has proven itself to be a reliable and secure communication protocol. The implementation of the Bluetooth protocol for the device communication gave the client an edge in the industry. It is clear that medical devices and medical data management products benefit from the advantages provided by wireless technologies.