

Value Genesis: Information Management Program Adds Value to Medical Systems

Client: A leading medical device company in the ENT (ear, nose, throat) and Thoracic Surgery and Imaging fields.

Challenge: The client recognized a need to expand the display, reporting and sharing of patient information collected by the client's existing product, an acoustic reflection imaging system. The expressed market needs cut across many stakeholders in the established product base. The solution needed to satisfy all stakeholder groups.

As the proposed solution would replace a program already in use by the client's customers, the new program needed to be easy to install, configure and learn to use.

The client also had indications that automatic data links with other standard applications, such as Microsoft Excel, would be valued by customers.

Diagnosis: The client, a leader in the medical device industry, was focused on innovative devices for treatment of medical conditions of the head, neck and chest. The DOS-based data collection and reporting program, used in current generation systems, did not offer the performance expected by world-class customers. The client wanted improved performance, and better printing reliability in response to customer complaints. Additionally, they believed that updating this program to a more contemporary graphical user interface would add value for their customers, by making information more readily available.

In order to determine the best development path for the client to take, Product Genesis felt that it was important to determine how the client's customers were using the product, specifically the existing reporting feature. There were also hints of customer "workarounds" that might indicate unmet needs that could be addressed. This would enable Product Genesis to better advise the client on choosing the best development options, as well as to identify possible areas of customer need requiring more attention.

Methodology: A cross functional team including both client and Product Genesis professionals was created. A series of design review meetings was conducted during which customer input was mapped to the client's objectives for the product. Based on this mapping, additional Voice-of-the-Customer (VOC) interviews were conducted to fill in gaps in the understanding the key stakeholders needs. From the analysis of the customer input map and the VOC interviews, a

set of program goals was adopted that would guide the technical development of the software.

Subsequently, Product Genesis evaluated system architecture options with the client, using a platform analysis to determine the best way to approach the software design. The typical end user was identified and key characteristics of the end user were defined, specifically, for a medical professional in a clinical setting. The client wanted maximum performance from the software, but also understood that ease-of-use was critical to the program's acceptance by the user. Additional stakeholder interactions were also considered to add value the Windows architecture selected.

To meet the needs of both end-users and stakeholders, it was important that the program have an easy to use interface, be easily installed (upgraded), and print to any available Windows printer without further interaction from the end-user. The end-user typically worked on Windows based computers, usually in a networked setting. Despite having a target set of end-users, it was decided that the program design would be universal so that users with a wider range of computer skills would be able to easily learn how to use the software, expanding the market potential.

Through a thorough understanding of customer needs and client business requirements, collaborating with a software engineering partner, Product Genesis managed the development of the software program using a standard Windows software development tool. This ensured a universal application of the program, and integration with installed Windows printers and other applications. Common Windows graphic user interface objects were used such as pull down menus and icons. This created a familiar environment for the program's end-users. To facilitate easy installation, a self-installing program was developed.

Results: The end result of the Value Genesis process was the successful development of a software program that exceeded the client's business requirements, by satisfying end-user and stakeholder needs. This made their entire system more marketable to their target audience. Additionally, the modularity of the program has allowed the client to leverage a single development effort to enhance the value of several other product offerings not originally included in the development plan.

The Value Genesis process helped the client increase the overall value added to their end-users by helping the client better understand and address the broader information needs of their customers.

