Developing an iOS app for a leading health instruments company

Client is an ISO-certified company and a leading manufacturer of body composition analysis instruments in the US. Over the last three decades, the client has developed an outstanding reputation for engineering and manufacturing such instruments. The client has delivered these devices to every corner of the globe. In addition, the client produces software and accessories for its analysers and custom engineering and instruments for a variety of customers.

The Vision

The healthcare industry today is becoming increasingly more open towards new technologies and tools that aid in effective service delivery. Professionals from the industry demand observations and results in real-time. Innovative mobile applications fulfill this need very well by allowing complex applications to run on a slick and user-friendly interface.

Faced with numerous requests for updated diet and exercise information and continued demand for its equipment, the company wanted to create an iPad app to meet the expanding needs of their customers.

Application Overview

This particular app for the iPad would be built for healthcare professionals who want to follow changes in their patient's body composition to ensure a healthy weight management program and offer improvements in lifestyle. Body composition would be monitored through historical graphs and charts which effectively illustrate the variations over time. To further aid in weight management, the app would suggest meal plans and exercise recommendations. In addition, it would allow the professionals to create reports in a PDF format containing all the relevant data and suggestions. The app would provide the body composition estimates based on electrical characteristics measured by an instrument developed by the client. The instrument is already in vogue among healthcare professionals.

In addition to number-crunching and skilled engineering, the client looked for a partner who understood these requirements and delivered an app that proves popular among its users. The client preferred e-Zest because it brought a rich experience of working on iPad applications and delivering out-of-the-box solutions. The e-Zest team came in with technology experience and also domain knowledge in the healthcare industry.

Technologies and Tools:

- Xcode IDE
- Objective C
- Sqlite database
- Graph API- iOS Plot and Bar-chart open source library
- DB Math Parser

Challenges and Solutions

The app was envisaged to contain an interactive interface for graphical representation of test results, comparing average ranges, providing diet & exercise plans and generating PDF reports. The e-Zest team also researched on the best APIs available for multiple graph/chart types.

The app used different sets of prediction equations to determine the various parameters of body composition. Many of the critical app functions such as exercise and diet plans were tied to these equations. Numerous graphs and chart types were examined as research for choosing the best ones for the app. The team went through a lot of open-source libraries and figured out a way to implement and display it to the end-user. Generating the PDF report was also a key requirement that had to take care of multiple parameters and specifications customized to end-users.

Technical Breakthroughs

The mathematical equations called for rigorous testing on boundary conditions and very intuitive thinking.

Business Benefits

The application provided a good-looking and intuitive interface for the end users. The users are extremely satisfied with easily manageable features such as historical charts and graphs, and generating reports. Powered by the app, the healthcare professionals have been able to increase their speed of operations by 20%. Owing to the functionalities built by the e-Zest team, the client has been able to offer the app at a premium price. Thus, it has created an additional revenue stream for the client, in addition to existing instruments and software.

Bottom Line

The project serves as a model example of the advantages of incorporating information technology solutions in healthcare. e-Zest not only delivered a solution that was compliant to the requirements but also proved popular among its users as a beacon for healthy lifestyle.

e-Zest