

Qt Goes to the Gym with Precor and ICS

Helping people improve their health with more effective workouts has made Precor the fitness equipment leader. Its latest innovation, a Qt-enabled console, takes Precor the next step up.

Want to know what the next generation of workout equipment will feature? Ask Precor. Since 1980, Precor has set the standard for continuous state-of-the-art fitness innovation. In 1982, it became the first fitness equipment maker to add motivational microprocessor-based electronics, providing continuous feedback and enhanced workout effectiveness. In 1995, it introduced the first Elliptical Fitness Crosstrainer™ (EFX®). And in 2007, it released the revolutionary Adaptive Motion Trainer® (AMT®), a breakthrough piece of cardio equipment that constantly and fluidly adapts to stride length and motion.

That tradition continues now as Precor introduces “the next big thing” in fitness. The next generation of Experience Series cardio equipment features a Qt-enabled, high-end interactive touch screen console. Working with its technology partner, ICS, Precor is giving users and health club owners unprecedented flexibility and control over both the machine itself and its integrated entertainment options — including HD TV.

Users can touch, swipe and scroll just like they would to navigate a smart phone, iPad® or tablet — to select workouts, personalize workouts, view a variety of workout statistics, select which workout metrics to display, select languages, switch between TV channels, and much more. This intuitive interface helps exercisers get the most out of the equipment and tailor workouts for themselves — both of which improve fitness.

The new consoles are also network-enabled so that both Precor and club management can monitor the usage of each machine and remotely upgrade software to keep the equipment in top shape.



Using Precor's Qt-enabled console, users can touch, swipe and scroll to personalize their workouts.

“A much more integrated experience”

Such capabilities represent a significant advance in fitness equipment, says software engineering manager, Robert Seaman, who led the new console's software development team. “Our existing fitness equipment had LED user interfaces for managing the workout, and a separate monitor for television. What we were looking for in the new product were more advanced media features integrated into a touch screen interface. For example we can now have a video source, such as a training video, running in the background while an application is drawing a menu in the foreground. It's a much more integrated experience.”

Achieving that experience posed significant technical challenges, which is why Precor selected ICS as its implementation and training partner — and Qt as its technology platform.

“We wanted more than just a user interface framework,” Rob says. “We were looking for an application framework to go in our embedded system. Our staff already understood C and C++. Qt is a C++ based framework. And the implementation in Qt was cleaner than for some other frameworks.”

Having decided on Qt, Rob's choice of ICS was also logical. “What I like best about ICS is that we get broad exposure in the Qt platform. And ICS also had the training capabilities I needed as well. We didn't have any Qt developers on staff when we chose Qt for our user interface and application framework. So I was able to use ICS both for training and staff augmentation.”



**Integrated Computer
Solutions Incorporated**

**54 Middlesex Turnpike • Bedford, MA • 01730
www.ics.com • info@ics.com • 617.621.0060**

Beauty + Performance

Widgets had to perform, not just look good on-screen, Rob says. "Because it's an embedded implementation we created all custom widgets. So we had to make sure that implementation was efficient. The performance aspects were a challenge — like providing smooth animation for drop-downs and workout graphics — and displaying media transparently or in the background — while also keeping the operation of the machine quick and smooth for the user. Because embedded microprocessors were used we had to utilize the hardware and the graphics coprocessor properly, and make sure our code was optimized to run smoothly."

Under-the-hood performance was a big reason for not selecting alternative technologies, Rob says. "We researched other UI based technologies but they fell short in one or more ways. They either lacked the performance we needed or they didn't really solve the overall architectural issues; they only solved the GUI (graphical user interface) issues. Qt provided a complete architectural framework that gave us the performance we needed."

In rating performance, Rob measures both the product and the supplier — another reason he likes ICS. "Their ability to deliver has been outstanding, which isn't always true of software consultants. One of the things we especially like is how they are always there whenever we encounter something that's new to us. Even if it's something that the ICS engineers working here onsite haven't specifically worked on themselves — they will send an email back to the others at ICS and say, 'Hey, have you ever been exposed to this?' or 'Who's looked into this area?' Having that deep Qt knowledge available to us is huge."

So, how have customers responded to the new console? "Very positively," says Rob. "It's very much got that Wow! type of impact. Right now we have more demand than we have supply. Customers are very happy with the experience."

To learn more about how ICS can help with your Qt development, visit www.ics.com

And what about Precor's own experience, with ICS?

"We're very happy with ICS," Rob says. "What ICS delivers is what they claim to deliver. They provided training to get us going in Qt and then they provided engineering consulting to help us develop the project and bridge the gap when we didn't have enough of our own staff. That's what their business is and they did it quite well. They're very good at coming up with the right solutions with the right talent mix at the right time."



ICS helped Precor add more advanced media features integrated into a touch screen interface for their new Qt-enabled console.

About ICS

Integrated Computer Solutions, Inc. (ICS) is the leading expert in Qt, multi-touch applications on MeeGo, and GUI application development. As the largest independent Qt consulting firm in North America, ICS has extensive experience solving development challenges for all types of Qt applications, including MeeGo initiatives and applications leveraging the latest Qt functionality, such as Qt Quick and Qt Mobility APIs. ICS is also a Nokia, Qt-Certified Training Partner and has provided training and consulting services to over half of the Fortune 500, including many whose technology defines their core business. Check us out at www.ics.com.



54 Middlesex Turnpike • Bedford, MA • 01730
www.ics.com • info@ics.com • 617.621.0060