

Consumer Electronics- R&D Labs

Client

Consumer Electronics

Project

R&D Outsourcing

Abstract

Consumer Electronics had plans to launch their next-generation set-top boxes and Home Audio/Video Server. In order to meet their “Time to Market” guidelines they required an R&D partner to streamline their development process and provide cost-effective R&D outsourcing services.



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Consumer Electronics is a Fortune 50 company and leading developer of consumer electronics and electric products, including High Definition and Standard Definition Digital Set-top boxes with enhanced user interface and functionalities. Consumer Electronics is also a recognized leader in developing convergence solutions for Audio/Video appliances and the Internet.

In the ever-competitive electronics market, Consumer Electronics was seeking a competitive advantage to maintain their market leadership position. They looked no further than Infosun, a technology outsourcing partner designed to provide cost-effective research and development services for hi-tech industries.

Challenge

As a leading developer of consumer electronic products, Consumer Electronics has a dedicated laboratory to oversee research and development efforts in the area of consumer-electronics products. In order to maintain their market position in the highly competitive electronics industry, Consumer Electronics was planning to launch their next-generation set-top boxes and Home Audio/Video Server. The goal was to shrink their development process in order to make their next-generation products the fastest to market, thereby supplying a distinct competitive advantage.

Rather than hire more staff or redefine their development process, Consumer Electronics set out to form a relationship with a technology outsourcer that provided a mix of technology expertise, project management skills, and a track record for delivering complex solutions in reduced time frames. Consumer Electronics saw InfoSun as the outsourcing firm that could strategically and effectively help achieve these goals.

Company Profile

Infosun is a product development outsourcing provider. Our aim is to help our clients launch innovative products and solutions faster than their competitors. Companies partner with InfoSun for our development facilities, wide-ranging design expertise, and comprehensive intellectual property portfolio.

Whether the project is designing a new product, revamping an existing product to cut costs, or redefining your development process, Infosun provides each client with a timely and cost-effective solution. In addition to our own intellectual property, we provide a full range of engineering capabilities necessary for complete product management and development.

InfoSun Solution

A Digital Set-top box is a multi-processor, multi-tasking system, using high-profile functional processors, having an on-chip MPEG-decoder that carries out online and real-time processing of incoming audio and video signals. This processor is integrated with 2D and 3D graphics.

InfoSun and the client entered into a concurrent R&D model to provide an end-to-end software solution for their next-generation Digital Set-top box.

The Development Process included:

- Understanding Consumer Electronics current development process
- Establishing a concurrent model at Infosun's development facility
- Assigning resources to complete development tasks within the time frame

The Software Development Goals included:

- Development of API's for graphics and embedded databases.
- Designing user-interfaces for On-Screen-Displays (OSD), Program Guides, Viewer Interactive screens and configuration screens
- Generating screens for handling various inputs like infrared remote, front panel and telephone modem.
- Implementing embedded-image-conversions from base algorithms (RFC's)
- Design and development of drivers for devices and interfaces
- Smart card interface to allow users to watch 'Pay-Per-View' programs
- APIs for decompression of PNG/JPEG images in real-time
- Software to decode and display the closed-captioning information on the TV screen.

Project Results

Through their partnership with Infosun, Consumer Electronics significantly reduced the development time required to launch their next-generation Digital Set-top Boxes. By virtue of Infosun's development facilities, Consumer Electronics was able to establish a dedicated technology lab that mirrored their R&D division in terms of Vision, Process, and Infrastructure.

Furthermore, our extensive experience in technology development allowed us to provide Consumer Electronics with processes, frameworks, and expertise in executing complex development efforts. This expedited their development process, plus helped produce a high-quality, cost-effective solution that met the specified requirements of our client.

Software Used

- Sun Solaris based Build tools
- XTerm S/W
- Rational Rose Ent. Edition
- MS Visual Source Safe 6.0
- MS IIS for Project Intranet
- VisualSoft FileSecure 1.0 for Encryption
- Linux OS for Mail Server.

Hardware Used

- Set-top Boxes
- Bit-Stream Generators for simulation of digital signals
- JEI boxes for Online Debugging
- Sun SPARC Servers
- NTSC compatible TVs