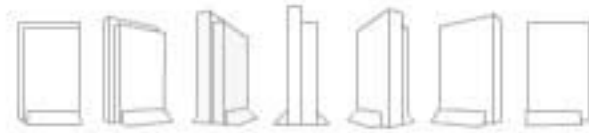




# CREATING SONY PLAYSTATION 2 BROWSER FOR INTERACTIVE NETWORK GAMING

OREGAN NETWORKS' CUSTOMER CASE STUDY

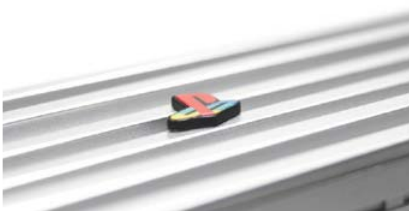
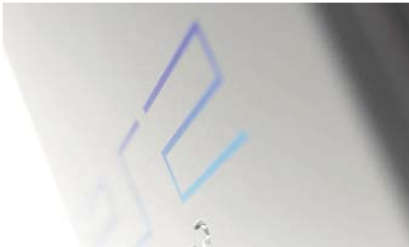


## Summary

Oregon has successfully ported its software onto Sony PlayStation's proprietary operating system, enabling online multiplayer gaming functionality as well as enhancing the console's interactivity and entertainment features. The solution equips Sony with interactive marketing tools, enabling it to build a global online community of PlayStation enthusiasts on the Central Station portal and promote new game releases.

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## Sony Computer Entertainment Testimonial

"Sony Computer Entertainment Europe selected Oregon's middleware and TV browser to facilitate delivery of Internet connectivity and access to its groundbreaking Central Station service on Sony PlayStation 2.

Sony's selection criteria was based on advanced feature support, the dynamic and flexible culture of the company, its ability to customise and its capability to deliver high quality performance.

Oregon's solution takes PlayStation gamers online and enables access to content and community features that enhance the PlayStation Network Entertainment experience."

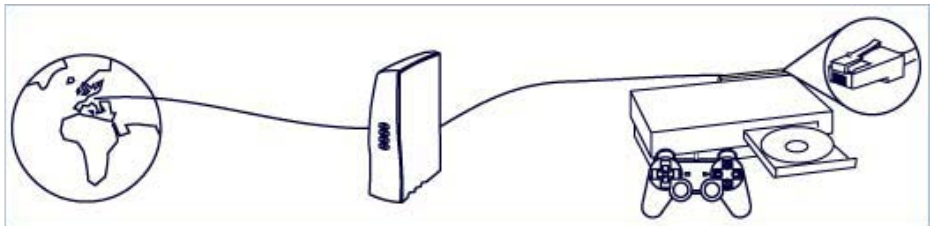
**Nainan Shah, VP Business Development SCEE**

## Project Background

Sony PlayStation 2 console has been leading the video gaming market since its launch in March 2000. Phenomenal success in its first two days on sale in Japan, when the machine sold a record-breaking 980,000 units, reverberated throughout PAL television standard territories with over 16m units sales, and in North America, where sales figures exceeded 21m by August 2003.

In 2001, Sony Computer Entertainment Europe (SCEE) adopted the strategy for taking the PlayStation 2 gaming console online and providing the end-consumer with network gaming experience. The market forces indicated a favourable combination of broadband adoption and growth of online interactive entertainment.

## Creating a Connected Game Console



In order to enable the new features, SCEE required TV-centric embedded browser technology that could be easily ported onto the Emotion Engine chipset and execute efficiently on the proprietary PlayStation 2 operating system.

As a part of an entertainment product, the browser is expected to render rich animated graphics and interactive features, without compromising the display quality and the speed of gaming experience, and in many ways outperforming existing PC web browsers.

The first release of Oregon's browser for PlayStation enables the console's broadband connectivity to the Sony Central Station portal - a walled garden entertainment and community forum for PlayStation gamers.

## The Challenge of Building a TV browser for a Global Entertainment Brand

SCEE division manages the PlayStation 2 product within the PAL television standard territory, which includes Western and Eastern Europe, Middle East, Africa, Australia and parts of Asia and South America. Consequently, the browser is required to provide global language support, including the more challenging languages such as Arabic, which requires bi-directional text display and input, for rendering HTML that is written from right-to-left.

In addition, it was prerequisite that the solution should be scalable for future enhancements of the platform as a TV-centric digital entertainment consumer appliance.

The project timescales determined the need for a solution that can be ported within several weeks.

### In summary, the requirements included :

- International language encoding
- Advanced graphics support
- Application Programming Interfaces for third party plug-ins
- High quality display
- Small footprint and fast execution
- Scalability for future product enhancements
- Game development libraries
- Support for the Sony Dualshock 2 controller
- Widescreen support

## The Solution - Oregon Media Browser

Oregon Media Browser incorporates TV Browser and UI, IPTV module and Digital Living Network Alliance (DLNA) module for multi-room entertainment.

Oregon Networks originally developed its TV browser software with a vision for a robust, fully specified solution that delivers a rich TV-centric Internet browsing experience. Oregon Browser's specifications were created with attention to all minute details of TV browsing ergonomics: adaptation for limited screen resolution, remote control based text input methods engines, international font rendering requiring a 16-bit vector font engine, anti-flicker and colour correction to resolve TV display limitations and other quality-critical nuances.

As selected software supplier for SCEE, Oregon was contracted to create Sony's own PlayStation TV browser, building on the strengths of the standard off-the-shelf solution and enhancing it with PS2- specific navigation and audiovisual effects. Particular emphasis was made on the speed of interaction, navigational control aspects, and delivering a quality interactive user experience.



## The Solution - Oregan Media Browser, continued



Features were extended to ensure PlayStation users were delivered the kind of high-end experience they expect of the world's leading entertainment brand. This entailed comprehensive support of HTML 4.01, CSS 2, DOM 2, DHTML, XML, JavaScript 1.5, Macromedia® Flash® compatibility and development of a user interface and audio system that provide users with a slick, media rich portal that is easy to navigate.

Early in the original product architecture design, Oregan realised the importance of creating a solution that is highly portable, economical and efficient, which lead to creation of the Oregan Abstraction Layer (OAL): a modular middleware layer that serves to abstract all hardware and OS specific elements of the Oregan middleware into a single portable layer. Owing to this architecture, the browser was executing on PlayStation in a matter of weeks.

## Under constant development: PS2 in the Digital Convergence Market

Today, a Network Access Disk with Oregan's browser is bundled with every PlayStation 2 Network Adaptor sold outside US and Japan.

Millions of PS2 gamers can use it to access online forums, instant messaging, information on new releases and participate in network gaming: alone or in a team of online friends. Oregan-enabled features open up a new level of entertainment for tactical gaming for such titles as 'SOCOM: US Navy SEALs' as well as 'FIFA 2004', 'Need for Speed Underground', 'SSX 3' and 'The Sims Bustin' Out'.

The online community is fuelled by the games, allowing you to take part in community tournaments for great prizes. Central Station-enabled 'Hardware: Online Arena' and 'Destruction Derby Arenas' are the first of the games that allow simultaneous participation of up to 19 networked gamers.

However, the development never ceases, with new games and further establishment of the portal as a games and consoles distribution and marketing channel. Oregan's browser provides Sony with the functionality to remotely upgrade the navigational features of the Central Station browser directly via the portal.

Oregan's dynamic solution has the potential to bring the PlayStation into the category of convergent entertainment devices that are capable of sourcing content from a variety of channels in a multitude of formats.

Additional advanced capabilities, already intrinsic in Oregan's browser and middleware include direct streaming of online premium content to the console and home networking - which opens a boundless scope for commercial benefits as well as growing customer satisfaction and loyalty to the Sony PlayStation brand.

With Oregan's middleware, the console features can be enhanced to enable a combination of diverse multimedia and communications technologies in one digital convergence platform.

For Oregan's TV Browsing software specifications and terms of licensing and customization, please visit [www.oregan.net/tvbrowser](http://www.oregan.net/tvbrowser).

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### About Oregan Networks

Oregan Networks is a leading provider of embedded end-to-end digital home entertainment middleware, comprising digital media streaming, home networking, TV browsing and user interface technology. Oregan is a privately owned company, with headquarters in London, UK, and branch offices in USA, Japan and Taiwan. Since incorporation in 1997, the company has experienced steady growth and profitability, positioning itself to capitalise on the rapid expansion of the digital entertainment market. Oregan participates in the UPnP Forum and Digital Living Network Alliance, to ensure compliance with rigorous quality and consumer device interoperability standards.

More information about Oregan Networks is available at: <http://www.oregan.net>