NetFront™ Browser NX for Automotive

A high performance HTML5 engine with optimized memory usage for use in embedded automotive platforms.

NetFront™ Browser NX is an advanced HTML5 solution that provides In-Vehicle Infotainment (IVI) platforms with a comprehensive platform to offer services via standardised HTML5 rather than operating system specific binaries or applications. This enables highly portable applications that can be readily deployed to multiple units by using responsive design techniques. The NetFront™ Browser NX Webkit engine features predictable memory usage, high stability, high portability and market leading performance on embedded platforms.

NetFront™ Browser NX utilises ACCESS' experience of the embedded browser and CE equipment markets and leverages the widespread adoption of WebKit to provide a solution for the automotive market. NetFront™ Browser NX addresses the real world shortcomings that affect WebKit-based browsers, including instability in constrained environments, platform memory fragmentation, large code size and the lack of portability for automotive platforms.

HTML5 Standards and Platform Support

NetFront™ Browser NX delivers high levels of HTML5, CSS3 and JavaScript conformance as well as an optional extension for the CE-HTML standard.

NetFront™ NX can target the widest range of automotive operating system platforms, including QNX and Linux, and is provided as an embeddable Software Development Kit (SDK). The SDK approach provides the developer maximum flexibility to integrate HTML5 capabilities within their platform to ensure the best presentation of the user interface (UI).

Additionally, NetFront™ Browser NX offers comprehensive support for worldwide Digital Television (DTV) standards and specifications, including HTML5, CE-HTML and HbbTV. Support for online platforms such YouTube Leanback make NetFront™ Browser NX an ideal solution for automotive infotainment systems.

HTML5-based IVI UI examples

High Performance

NetFront™ Browser NX has been engineered to take advantage of platform and hardware capabilities, such as accelerated graphics processing units (GPUs) and OpenGL-ES. Enhanced compositing algorithms enable the rendering engine to dynamically choose hardware or software rendering based on the content in order to provide the best user experience (UX).

Support

The Browser is a commercially provided and supported comprehensive solution that includes documentation and world class engineering support. ACCESS can also provide professional services to tailor the solution to a particular device or environment and ensure the success of automotive projects.

The Engine of Next Generation UIs

Based on WebKit HTML5 technologies and provided as an embeddable technology component software development kit (SDK), NetFront™ Browser NX is a highly capable next-generation UI engine that can deliver greatly enriched user experiences (UX) including 3D graphics and animations, HTML5 application stores and HTML5 based applications.

Key Features and Benefits

- Supports advanced HTML5 features including Canvas 2D, Web Workers, Web Storage, CORS, Audio/Video tags, etc.
- Supports WebGL, which extends Java-Script™ to enable interactive 3D graphics
- Supports CSS3 including Animations, 3D Transforms, Transitions and Media Queries
- Supports Leading DTV technologies including CE-HTML, HbbTV, and YouTube Leanback HTML5
- Predictable memory usage to avoid platform memory fragmentation issues
- Highly portable with platform-agnostic porting APIs
- Based on technologies deployed in over one billion devices

The Power of One Billion

NetFront™ Browser NX is based on market-proven browser technologies that have been successfully deployed in over one billion devices throughout the world.

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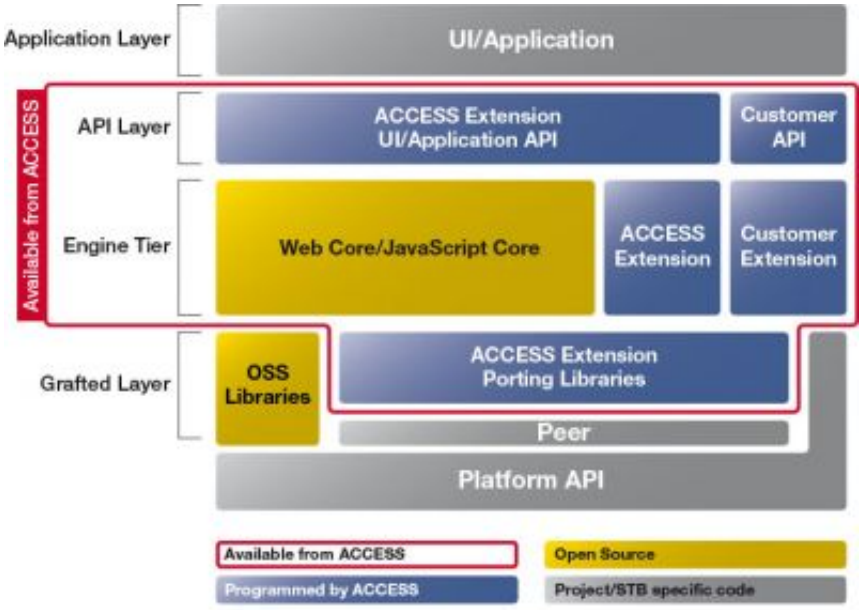
Specifications



NetFront™ Browser NX for Automotive Module Diagram (Click to enlarge)

Markup

- HTML5 (Audio/Video tags, Canvas, Web Workers, Web Storage, etc.)

Style Sheets

- CSS1, CSS2, CSS3 (Media Queries, Animations, Transforms, Transitions, etc.)

Security

- TLS1.2
- NSS
- Configurable digital certificates
- Extended Validation
- Elliptic Curve Cryptography

Scripting

- ECMAScript (ECMA-262 3rd Edition)

Browser SDK Features

- Embeddable HTML library
- Configurable dynamic memory usage
- Cookie Management
- Cache Management
- Tabbed browsing support
- Page history
- Configurable error pages

Supported CPU architectures

- TI OMAP, Renesas R-Car Intel/x86, ARM®, MIPS, SH

Device Classes

- Connected TVs
- Set-top Boxes (IP and Hybrid)
- PVRs / DVRs
- Game Consoles
- Internet-capable Media Players
- Automobile Infotainment Systems
- Other Connected Appliances

Memory Usage

- Code Size: 30-40 MBytes uncompressed
  RAM Size: min. 40 MBytes, 128MB recommended

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