

OSEHRA Technical Report

EWD

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What is EWD?

EWD is a web application development framework that has been specifically designed for use with GT.M and Caché. It can be used to not only develop new web applications, but also web-enable existing legacy applications. As such it is an ideal framework for modernizing VistA.

EWD has been specifically designed to:

- be intuitive and simple to learn and understand
- be highly productive in use
- significantly reduce the cost and overhead of downstream maintenance
- be highly secure
- create very high performance applications
- be user-extensible
- integrate with all major Javascript frameworks

EWD consists of two components:

- An XML DOM-based compiler which converts your EWD source pages to run-time code
- A run-time environment that manages application state and security

EWD is available free of charge. It is subject to a commercial license for Caché, but for GT.M it is available as an Open Source product, licensed under the Affero GPL Version 3 license.

What can EWD be used for?

EWD can be used to create:

- “traditional” HTTP/HTML-based web applications, where the entire web page is replaced at each request;
- Ajax applications, where the application consists of a single page that remains in the browser, and each request just replaces a fragment of the page by using DOM techniques
- Mobile web applications that look and behave almost identical to Native mobile applications
- “Realtime web” applications, using the latest WebSockets technology to deliver information to the browser in an event-driven way over a socket

connection between the browser and back-end, thereby dispensing with the need for inefficient polling techniques

What Technical Platforms does EWD work with?

An EWD application can be cross-compiled to work identically on a number of different technical platforms, including:

- GT.M & the Apache web server
- GT.M & Node.js (a new server-side Javascript platform)
- Caché & IIS or Apache & CSP
- Caché & IIS or Apache & WebLink
- Caché & Node.js

Thus, web-based front-ends for VistA can run identically on both Caché and GT.M systems, without any changes being necessary to the EWD application code.

EWD Security

High security is a key and integral feature of EWD. It has been designed to be used with healthcare and financial applications where personal and financial data are being exchanged across open networks. As such it is an ideal framework for use with VistA.

EWD uses a tried-and-tested, fully automated set of techniques that attach randomly-generated tokens to all URLs within applications at run-time. A number of large users of EWD regularly subject their applications to security audits and penetration tests. To date no security problems have been identified.

EWD has been in production use around the world since 2004.

VistA and EWD

The WorldVistA group have made EWD their de-facto web development platform of choice. It was used to create the VistACom application: this was designed for use with both iPads and desktop browsers. EWD's XML-based capabilities were used to process and visualise CCR and CCD documents: this functionality was integral to WorldVistA achieving Meaningful Use certification in 2011.

VistACom has demonstrated how, by using EWD, VistA can be modernized without any invasive changes being necessary to the existing VistA code base.

Technical Details

Full details on EWD can be found at <http://www.mgateway.com/ewd.html>

Information at this location includes:

- Download and installation instructions

- Configuration instructions
- Tutorials and examples

The free Open Source version of EWD for GT.M is available from <https://github.com/robtweed/EWD>

Learning Resources

A number of tutorials are available for EWD, listed under the “Key Documentation” heading at the top of <http://www.mgateway.com>

A free community forum is available at <https://groups.google.com/group/enterprise-web-developer-community> . This forum is fully searchable and includes a large number of examples, tutorials and other articles describing the features of EWD.

Training on EWD can be provided by contacting Rob Tweed at rtweed@mgateway.com

An online training course is available by subscription at <http://www.regonline.com/Register/Checkin.aspx?EventID=1017708>

Further Details

Further details and information about EWD is available from Rob Tweed (rtweed@mgateway.com)