



Enterprise Design Patterns: User Interaction Capabilities

What are Enterprise Design Patterns?

Reusable templates that guide the enterprise to implement a set of technologies in standard ways

How do Enterprise Design Patterns relate to the Enterprise?

Enterprise Design Patterns translate OI&T's strategic goals, as documented in the Enterprise Technology Strategic Plan (ETSP), into "real world" direction to guide system design

How can I learn more?

To learn more about Mobile Enterprise Design Patterns, contact Joseph Brooks
(joseph.brooks@va.gov)

To read the full document, see the TS website:
www.techstrategies.oit.va.gov

To ask questions about Enterprise Design Patterns in general, reach out to
AskTS@va.gov

- **Enterprise Design Pattern Scope:** This document provides high-level guidance on a common set of current and future capabilities available throughout VA that enable consistent user interaction. These capabilities help projects develop web applications or leverage portals in standardized ways. The capabilities also support a client-independent set of functionality separately consumed and rendered through both client platforms and devices.
- **Current State:** VA projects face a reoccurring challenge connecting web-based applications to disparate enterprise resources, including Enterprise Shared Services (ESS). VA addresses this challenge by separating concerns between the user interface (UI), request processing, and business logic, resulting in improved testability and time to market. These applications use industry standard technologies including "web technologies" (Hypertext Markup Language 5 (HTML5), Cascading Style Sheets (CSS), and JavaScript) to maximize user interactivity and responsiveness.

Users (Veterans and VA staff) access, view, and update VA information in a constantly evolving customer-centric environment. Web applications are not only easier and cheaper to develop, they offer increased functionality and can be accessed on any device. These applications include web technologies that allow clients to call services in a browser without depending on business logic. Applications also include enterprise portals that aggregate data from different sources using a common look and feel. This supports a standardized "front end" that allows VA to provide optimal user experiences while migrating back-end systems to Enterprise Shared Services (ESS). Separating the front end from the back end allows for greater flexibility to present information to users as project-specific business needs evolve.

- **Design Pattern Solution:** This Enterprise Design Pattern aligns with VA's overall IT strategy for supporting "any device, anywhere, anytime" for VA patients, customers, staff, and partners through modern applications. Modern applications integrate with collaboration services and leverage a standard set of user interaction capabilities aligned to industry best practices. VA will provide these capabilities through the following near-term activities:
 - Migrate "thick client" applications with tight coupling between presentation and business logic to "thin client" applications (e.g., HTML5) that have separation between presentation and business logic.
 - Institutionalize enterprise portals with a common visualization for users.
 - Mandate use of approved frameworks and libraries in the Technical Reference Model (TRM) for all new web applications.
 - Evaluate emerging frameworks and libraries, and approve their use in the TRM depending on usage trends and industry acceptance.

The future state of user interaction capabilities consists of a complete phase-out of legacy applications mixing presentation and business logic, all applications leveraging industry standards (HTML5, CSS, JavaScript) and frameworks to separate presentation and business logic, use of enterprise portals to provide seamless access to Enterprise Shared Services (ESS), and continuous evaluations of new technologies for inclusion in the TRM.

HTML5 is currently the industry standard for user interfaces, and the underlying technology enables user interaction without browser add-ons or extensions. HTML5 is the replacement for Adobe Flash and Microsoft Silverlight plug-ins. VA is currently deprecating plug-ins in favor of pure HTML5-based technologies, and these updates will be reflected in the TRM. This ensures that all new applications and portals seamlessly integrate with back-end systems and Enterprise Shared Services (Appendix E) without vendor lock-in or local web development standards.