DataBC Mashup Framework (DMF)

July 2012
Overview
The DataBC Mashup Framework (DMF) is an application allowing site authors to quickly create lightweight, targeted web mapping applications, while enabling end users to experience elegant and easily-consumed web maps. Developed for the Ministry of Labour, Citizens’ Services and Open Government, the DMF is available to other ministries and government organizations for service to web map users in BC and beyond.

Benefits to Site Authors
- A new site can be created in minutes through the simple wizard-driven interface
- Authors can connect to a variety of data sources, internal or external to the BC Government
- The DMF offers support for a wide variety of map data formats, including KML, WMS, Shapefiles, and Google Fusion Tables
- Pre-built, configurable tasks in the DMF create targeted searches and a tailored user interface without the effort normally associated with custom development

Benefits to End Users
- Support for multiple devices (including desktop, tablets, and smartphones)
- Users can share web maps through popular services (including Facebook, Twitter, Google+ and email)
- Interface is familiar to users of Google Maps, offering features like Street View, Map/Satellite base maps, and driving directions
Creative Uses

The ease of building web map applications using the DMF enables new ways for government to connect producers of spatial data to end users, through a framework that does not require the expertise of a traditional GIS developer. The DMF can allow for creativity to flourish, and envision new ways to visually communicate government services. The following are just a few ideas that could be realized:

- A parks application could display sites with waterfront access, with defined queries specifying amenities appreciated by boaters (such as boat ramps, pump-out stations and fuel docks). Conversely, the application could display sites specifically appealing to hikers, with overnight camp sites and restrictions on motorized vehicles.
- A community services application could provide information on affordable housing options for tenants with different needs, providing information on available developments.
- A forestry application could provide titling and land rights information to stakeholders, history of plantings and sprayings, and invasive species identification and reporting.

Current BC Government Users

The DMF is in use by a growing number of BC Government clients, including:

- **BC Parks** allows users to find BC parks by name and location, and revealing all BC parks as map icons. [http://tinyurl.com/d2r5eqz](http://tinyurl.com/d2r5eqz)
- **WelcomeBC Settlement Services** connects new immigrants to relevant services in proximity to their location. [http://tinyurl.com/c4ufnps](http://tinyurl.com/c4ufnps)
- **Ministry of Justice Court Finder** offers more accessible information about the court systems to the public, and allows users to search for courthouses by city, court level and region, with a link to the current day’s court schedule. [http://tinyurl.com/chb9qhd](http://tinyurl.com/chb9qhd)

These examples of DMF implementation provide some ideas of what one could do with the framework; if you have spatial data that may be of interest to the public, the DMF can help make it accessible.
Technical Highlights
The DMF provides a simple design for lightweight mapping sites, providing the power to connect to a wide variety and number of data sources. The framework uses the Google Maps Javascript API for rapid development and deployment, and site authors can select from a list of available WMS services or add their own. The DMF also allows authors to upload their own KML and shapefile data sets, and network link KML and Google Fusion Tables are also supported. Large data sets can be clustered to improve performance.

Deployment is simplified by the ability to create sites using the DMF Wizard Application. The wizard provides step-by-step instructions for designing both the structure and the style of the web mapping site, and site authors can configure data sources, tasks, site layout, and simple attribute searches.

Once defined in the wizard, a site can be accessed through the DMF Viewer. The Viewer loads the data from the site’s data sources onto a web map and implements configured tasks for accessing the map data. The Viewer is styled differently depending on whether the end user is requesting it from a desktop or mobile web browser, and provides dynamic customization such as adding WMS layers on the fly, filtering data and overriding the initial map location.

For more information on using DMF within your ministry or department, please contact: datamaps@gov.bc.ca