

The Unilingual Web

Interactive Web Apps and Server
Programming using only Java and
the Google Web Toolkit

Brian Van Klaveren

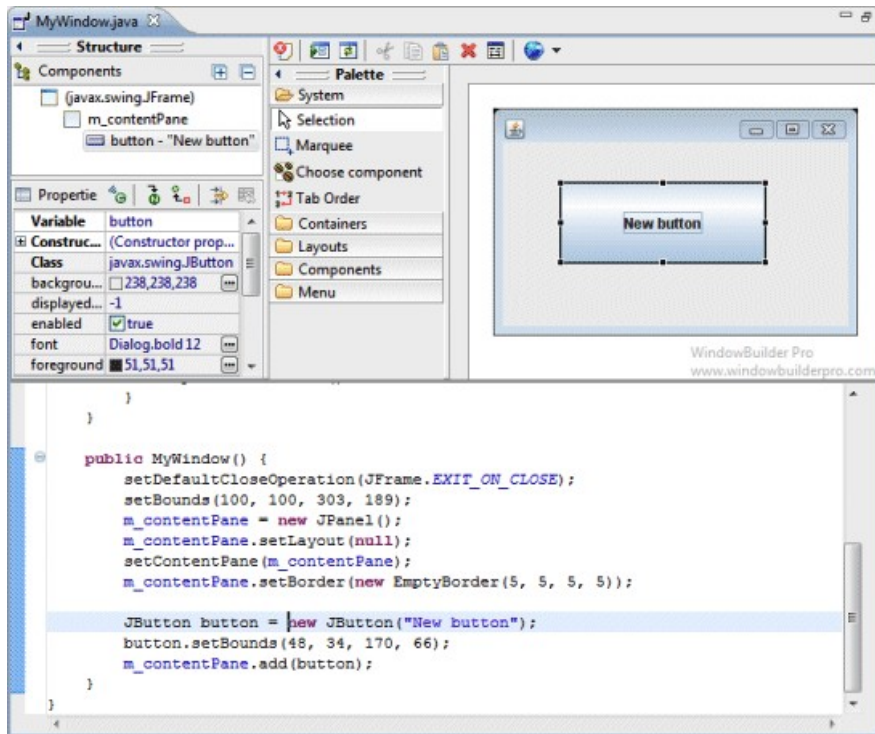
Why GWT?

“GWT's mission is to radically improve the web experience for users by enabling developers to use existing Java tools to build no-compromise AJAX for any modern browser.”

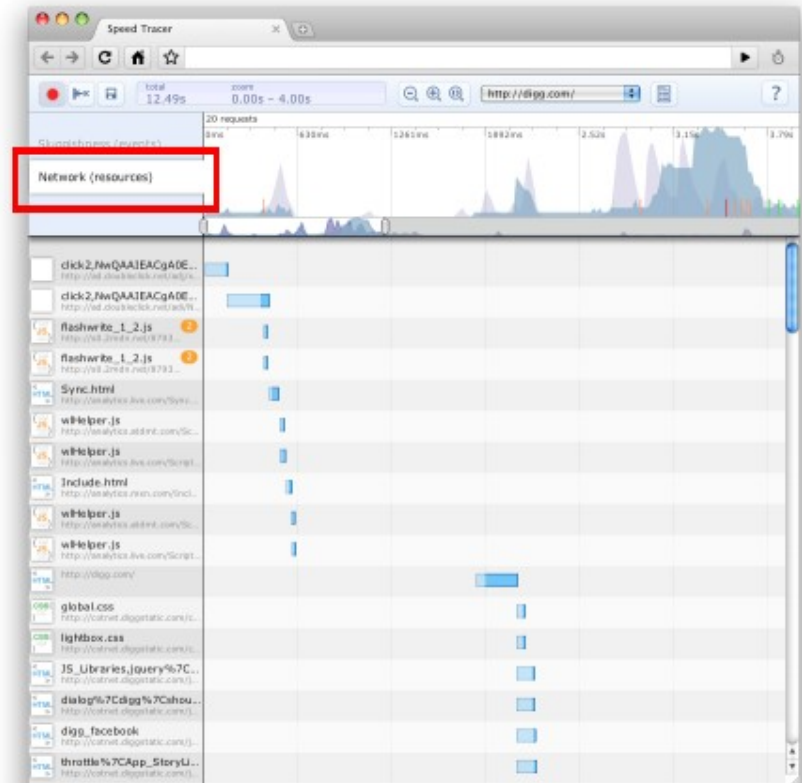
- GWT is natively Java – On both Server and Client
 - _ For the client, Java is compiled into JavaScript
 - _ You get to use standard Java dev tools, including a debugger
 - And plugins for Eclipse, NB, Maven, a UI designer, and profiler
- Server side coding, especially AJAX/RPC calls/interfaces is **simple**.
- Tons of widgets and third party libraries available
 - _ gwt-ext and smartgwt, for example
- Your platform target is the *modern browser*
- Apps behave more like desktop apps than web pages

Additional Tools

GWT Designer



Speedtracer



EXO DAQ GUI

- Application is distributed
 - Everyone has access
 - State maintained on server, dynamic updates in real time
- Mixed JSP/GWT
- Compatible with all browsers

EXO DAQ GUI

www.exo200.org/ExoDaqGuiGwt/?ignorelpBasedRedirect=true

Quick Links DAQ Monitoring Tools Operations Documentation

EXO DAQ GUI

Version: 1.4-SNAPSHOT . Help
Location: SLAC | WIPP
DAQ Mode: [prod | dev] | User: tonyj . (Switch|Logout)

Run Control High Voltage

Current WIPP time: October 18, 2010 3:50:31 AM MDT
Ready

Run Options

Run Type: Data-Physics
Physics triggers: APD individual gas test
High voltage: TPC Gas Test High Voltage
Hardware: Enable all
Software: Maximal suppression
Comment: APD pies 1, 2, 3, 4, 5 bi
 Log data to disk
Reset

Run Status

Run state: run active
Run type: Data-Physics
Run: 402
Run start: October 16, 2010 11:47:58 AM MDT
Run started by: liangyg
Run ended by:
Triggers: 53,042
Events: 0
Exposure: 1d 16h 02m 16s
Dropped: 11,577

Run Control

Begin Pause Resume End Reset Ramp HV

Messages

October 18, 2010 3:46:26 AM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-019.dat
October 18, 2010 1:34:29 AM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-018.dat
October 17, 2010 11:29:17 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-017.dat
October 17, 2010 9:09:26 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-016.dat
October 17, 2010 6:31:49 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-015.dat
October 17, 2010 4:25:31 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-014.dat
October 17, 2010 2:27:06 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-013.dat
October 17, 2010 11:46:04 AM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-012.dat
October 17, 2010 8:29:58 AM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-011.dat
October 17, 2010 5:10:33 AM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-010.dat
October 17, 2010 2:14:39 AM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-009.dat
October 16, 2010 11:04:37 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-008.dat
October 16, 2010 8:43:21 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-007.dat
October 16, 2010 7:31:11 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-006.dat
October 16, 2010 6:34:59 PM MDT EDP-S-NEWFILE opening new output file /raid/dat1/run00000402-005.dat

More messages

Fermi Datacatalog

| Name | Date | Type |
|--------|------|--------|
| GRB | | folder |
| pgwave | | folder |
| DRP | | folder |

Declarative layout using CSS, XML
Better resizing,
Use of space

UI modules can be loaded and unloaded on demand, without refreshing page

DnD functionality
Drag a dataset, show a plot

Dynamically loading data as needed to speed up page load time.

Wrapping it up

Client Side:

- Embedding in a page means adding a script tag since code is compiled down to JavaScript.
- Basic set of widgets and elements makes development easy
- No Plugins!
- A modern browser is recommended:
 - _ Above FF 3.5, IE 7, and Safari 3

Server Side:

- Generally, you will write servlets implementing your remote services to enable an interactive page
- But you don't you don't have to if you don't need AJAX
- A lot of code can be shared
 - _ Restricted to a subset of Java

Alternatives for a unilingual web

- Python instead of Java:
 - Pyjamas (pyjs.org) is a python based implementation of a subset of GWT
 - Server side is a bit more flexible
 - Django, wsgi, mod_python, etc...
- Pure Javascript with node.js:
 - Server side javascript programming
 - Client side is whatever you want
- Both tend to require hand coding JSON/XML for serialization, however.