Phil Weinstein / Accomplishments -- October 2015 -- Edit 10-03-2015 (a)

General Development Accomplishments

[I.A] New/Enhanced Software / Estimates
   TVA / RTI Plotting Requirements

A development analysis and estimates were devised for the following Plotting features:

- Plotting Scalar Slots and Dynamic Markers
- Symbolic Date Control of Plot Ranges
- Plot Triggering: SCT to Plotting linkage
- Other: Add Script Menu to SCT

See this document:

- **TVA / RTI Estimates / Plotting -- October 2015**
  R:\doc\plotting\2015\TvaRtiPlottingOct2015Est.docx

[I.A] New/Enhanced Software / Truckee/USBR Slot Usability
   Slot Dialog Display Preferences

The following features were developed for RiverWare 6.8:

1. Distinct appearance for bolded and non-bolded headers in model reports. Header text was implicitly being bolded as a result of use of HTML "H" tags, even if a non-bolded font style had been specified. This problem was documented and fixed as Bug 5681.
2. Added a "Level 5" font configuration, for sections nested to, and beyond, that level.
3. Added ability to show and hide the Table of Contents section using a triangle-arrow icon "tree" control button.

[I.A] New/Enhanced Software
   Truckee/USBR Model Report Tasks

Prior to this enhancement, the following three features had been initially *off* each time a slot dialog was shown:

1. Selection Statistics
2. Series "Notes" Column
3. Description Panel

A new global configuration was introduced to indicate the desired visibility of these features when a slot dialog is shown. Settings for the latter two features (series notes and description) have options to initially show those features only if the slot has data for those features.

This new feature is described in this document:

- **Slot Dialog Display Preferences for RiverWare 6.8**
  R:\doc\SlotDialogs\2015\Preferences\SlotDlgPrefs-2015Oct.docx

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Maintenance Accomplishments / October 2015

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[II] RiverWare Software Maintenance / FY 2015 Report Draft
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The monthly CADSWES Software Maintenance reports were compiled into an annual report for the fiscal year ending last month (September 2015). This includes information about work that went into producing releases, maintaining our development environment and testing tools, supporting installation and licensing, and fixing reported bugs.

This draft report is available here:

- **CADSWES -- Release, Software Maintenance, and Development Environment Work Summary -- Fiscal Year 2015**
  R:\doc\Accomplishments Reports\FY15\

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[II] RiverWare Software Maintenance / Software Updates / Bug Fixes
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The following bugs were fixed:

- Bug 5681: Model Reports: heading text always bold, even when 'normal' font style specified.
- Bug 5683: FlowLine slot names change when any SimObj renamed or created.
- Bug 5684: New RPL objects use default precision (8 digits) instead of RPL Set's precision

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[II] RiverWare Software Maintenance / Software Updates / Qwt Plotting Library
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Qwt is the open source C++/Qt library used in RiverWare to implement plot dialogs. After an analysis was done for upgrading that library from Qwt 5.2.3 to Qwt 6.1.2 in the prior month, that RiverWare port was accomplished in October 2015. Several aspects of the newer Qwt version had significant architectural differences, notably a completely revised legend API which accommodates the possibility of a custom implementation. No notable functional or graphical enhancements were introduced with this upgrade, but it positions us better for the development of future plotting enhancements. This was also a prerequisite for the Qt 4 to Qt 5 port of RiverWare which was started this month -- *see below*.

11-03-2015

Although, as just mentioned, while no feature improvements were introduced due to this Qwt upgrade, we did enable "anti-aliasing" (smoothing) in RiverWare 6.8 for the drawing of slot curves within plots.

Additionally, an analysis was done on other simple ways of improving the appearance of plots. Some experimentation was done, using the new Qwt library, to eliminate the gap between the plot and its axes.

[II] RiverWare Software Maintenance / Software Updates / RiverWare Qt4 to Qt5 Port
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RiverWare 6.7 and recent prior RiverWare versions use Qt 4.8.5. In October we devised changes to the RiverWare code base to compile RiverWare source code with Qt 5. A provisional Qt 5 build we created in June (Qt 5.4.2) was used. Changes were applied in such a way that this code base could still be compiled with Qt 4.8. This initial step does not result in a working executable -- that is being done in November (using Qt 5.5.1).

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