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Subject: Release candidate 2015.1

Posted by [mirek](#) on Mon, 16 Feb 2015 18:37:38 GMT

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After two years without release, I believe it is time to start releasing U++ again (after all, it is the only PR tool we have left...).

I have decided that version 8182 is as good as any, so let it be our release candidate (until some critical bug is found).

I have gone through 2 years of svn logs and created this nice list of new features since the last release...

## Core

U++ abandoned "default pick" semantics for containers. The transfer semantics now has to be specified explicitly, either as 'pick' or 'clone' (this is enforced in C++11 mode, in legacy mode old behaviour is maintained and pick/clone are optional).

New containers, based on fast-insertion arrays: InVector, InArray, SortedIndex, SortedVectorMap, SortedArrayMap. SortedIndex, SortedVectorMap and SortedArrayMap provide binary searches, while maintaining random access to the array, with performance comparable to binary tree based containers (e.g. std::map).

New Core/POP3 package - support for retrieving emails form POP3 servers.

Initial round of C++11 support (lambda callbacks, minor fixes)

A set of small utility functions findarg, decode, min/max now supporting more arguments. SplitTo and Merge for splitting/merging strings.

InFilterStream, OutFilterStream classes that can provide some sort of processing (e.g. compression) to regular streams.

New Date related functions EasterDay, GetMonths, GetWeek, GetWeekDate.

MIME / fileextension mapping functions FileExtToMIME and MIMEToFileExt.

Some ARMv7 related optimization (unaligned access, byte swaps).

SpinLock class.

Stream optimization methods GetPtr, PutPtr, GetSzPtr provide safe access to Stream internal buffer.

String/WString::Find(const String&) significantly speed optimized.

Value invalid casts now throwing exception ValueError instead of panic.

WebSocket class.

[Stable]SortBy[Keys|Values] functions for sorting VectorMap, ArrayMap.

plugin/lz4 - adapted fast compression library

plugin/lzma - adapted high ratio compression library

## GUI programming & graphics

Gtk backend (U++ now using Gtk for host platform interface)

EditDateDlg, EditNumber simple function for entering single value (equivalent to EditText)

ArrayCtrl new methods to add/retrieve ValueMaps and ValueArrays, new CreateCtrl<T> method.

LineEdit heavily optimized to be able to work with huge files (>100MB).

LineEdit now able to work with rectangular selections.

DDARasterizer and SDraw are new tools providing Draw with minimal host platform support (only two operations, paint Image and paint colored rectangle, are required).  
Image rescaling now supports various filters, like bicubic or lanczos.  
AttrText is now rich comparable Value: it is now possible to sort ArrayCtrl by AttrText filled columns.  
GLDraw - Draw implemented using OpenGL (ES).  
SVG parser (to Painter interface).  
plugin/ppm - trivial image format support.  
RichText/RichEdit header/footer support, QTF now using BASE64 for binary data (instead of 7-bit raw encoding).  
Turtle is another web framework of U++ - this one allows to convert existing GUI applications into Web application: simple javascript terminal connects to server where GUI application runs.

## Sql

New variants of Insert/Select/Update commands (now roughly supporting all important combinations of SQL standard).  
SqlSetFrom functions creates a SqlSet from any container.  
S\_ structures refactored, now provide an improved interface with better introspection.  
Sql console redesigned.

## TheIDE

Win64 PDB (Visual C++ compiled code) debugger.  
Find GUI refactored, added support for incremental finds, added regexp support.  
Block replace now has grep-like feature to remove matching/non-matching lines (instead of replacing matches)  
Case insensitive replace now has "mimic case" option (mimics the case of first and next characters, so replacing "vector" -> "array", when match is "Vector", result is "Array").  
Compilation errors now parsed and displayed nicely.  
Assist++ context goto (Alt+J) now supports local variables (goes to declaration).  
Layout/Icon designers now have find Search filter.  
Ide now displays long numbers with thousands separators.  
Syntax highlighting refactored, added highlighting of HTML, XML, .log files, .xsd files, .diff files.  
Directory comparison tool.  
Simple Json/XML viewers.  
Comment/Uncomment block.  
Selected identifier is now highlighted in all the text.  
Current line is highlighted with faint lines.  
Precompiled headers support for release mode (BLITZ still far better for debug builds).  
Insert file path (plain or as CString) function.  
Layout code generator now can place double-quotes around elements, generate handlers for buttons.  
Layout designer now can sort widgets based on their graphical position.  
Code navigator is completely redesigned.

There are also some GridCtrl/ScatterCtrl related logs, I would like to ask respective developers to

consider adding to this list; you can do so directly into upweb package...