WxTED – Version 1.27

WxTED is a teletext editor and this describes the Windows version. The source is currently hosted at https://github.com/peterkvt80/wxted In theory it can be recompiled for OSX by changing one #define flag. In practise the environment is not easy to migrate. I leave that to you as an exercise.

wxTED is WYSWYG and unlike other teletext editors it does not clutter the page with palettes and toolbars. The upside is that the page looks exactly the same as if it was being displayed on a TV. The downside of this is it mostly uses keyboard commands rather than the mouse.

If you want to edit more than one page then just run multiple copies of wxTED.

Installing

Get the Windows version of wxTED by downloading from http://www.teastop.co.uk/teletext/wxTED. The installer will create an folder in the start menu called wxTED Teletext Editor

Running wxTED

Run wxTED.exe by double clicking on the icon. It will load up a page file called BBC100.tti. This manual is always available in the Windows start menu and you will need it!

You can also double click on a tti file and wxTED should open it in a new window. You can also open a tti file from a command line by running wxTED with the file as an argument.

Print out the **wxTED quick reference** page or you won't get very far.

Using wxTED

wxTED mainly uses the keyboard. The mouse can be used for moving the cursor location by clicking on the page. You just type text and watch it appear. To access the special graphics codes you need to know the special keyboard combinations. The codes are NOT on any palette or menu but they listed in brief if you select Help->Special Keys. More information is on the Quick Reference page which you can print.

Teletext Page Files

wxTED reads and saves MRG System format tti files. It can also read ep1 and ttx (Cebra). If you load in ep1 or ttx then it will add tti to the filename so that you don't inadvertently erase your original page. When wxTED is started it loads in a default page which at this moment is a BBC page. You can use the file menu to load in another page file. Save writes the page back to where it came from while Save As lets you change the name. There are a few tti pages bundled in the "sample pages" folder.

Menu

Short description of all the menu options.

- **File**
  New   Replaces the current page with a blank page.
  Open   Load a tti teletext file (or ep1 or ttx)
  Save   Save a teletext file to the same name that it was loaded with.
  Save as   Saves the current page to a new file name.
  Publish   Publishes the current page via FTP.
  Publish Settings   Only FTP is implemented. Enter FTP settings here.
  Export edit.tf Pastes the current page in the clipboard in edit tf web format. Paste this into a browser.

- **Edit**
  Undo   Undo the last edit. Same as CTRL-Z
  Cut   Not implemented.
  Copy   Copy the selected region of the page to the clipboard. CTRL-C
  Paste   Paste the clipboard into the page. CTRL-V
  Insert   Inserts a new subpage in a carousel
  Delete   Delete this subpage from the carousel

- **Presentation**
  Language   Choose one of the seven languages for the current region.
  Region   Set one of the 8 geographic regions.
  Properties   Set up page properties like page number and C flags.
  Show Header Toggles displaying the header row and allows editing of it.
  Toggle Conceal   Shows or hides concealed text. Keyboard F11

- **Help**
  Special keys   Pops up a summary of the key functions.
  About   Puts up some information about the program.

Importing from edit.tf

You can import and export pages to and from edit.tf and other websites that use the same editor. To import a page, just copy the URL and paste it into wxTED. The whole page will appear. To export you can select File->Export edit.tf and your page will be both copied to your copy buffer and if

possible it will also open the page in edit.tf.

About control codes

Control codes are non printing characters which are used to set colours and control attributes like double height and flash. WxTED displays pages exactly as they would appear on a teletext TV. Control codes are normally only be seen by their effects but you can toggle their visibility by pressing Alt Gr. The status line at the bottom of the screen also describes the code at the current cursor position. In the picture the cursor has been moved in front of Sport and the status line reports that the character in that location is Alpha Green.

The cursor location is also reported so that you can know exactly where you are on the page.

In the example there is yellow text over blue background. In this case you need to use three three codes.

<background colour><new background><foreground colour>

Alpha Blue is SHIFT-F4, new background is CTRL-B and Alpha Yellow is SHIFT-F4.

So the first three characters on that line are <SHIFT-F4><CTRL-B><SHIFT-F3>

Black Background is the only code that lets you modify the background colour directly. It is also the only legal way to select black in teletext level. In this example there is the Teletext40 strap followed by white text on black. This is done by putting in Alpha White followed by Black Background. Note that to save space the Alpha White is actually inside the green strap after the Teletext40 text. This means that there is only one empty black space where the Black Background character is.

Newer TVs and software implement Alpha Black.
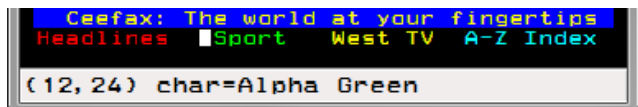
Viewing Control Codes

Control codes are normally hidden but if you press an Alt key then the codes are made visible. The Alt Gr key on the right is probably the better key to use. When the control codes are visible they are highlighted in grey and also mosaics are shown with a grey outline.

For graphics mode the character ⚏ is used in one of the seven colours.

For ordinary text mode the alpha character α is used.

Other codes not shown in the example image are:
𝑓 = flash, 𝒊 =steady, ⊢=start box, ⊣ =end box, ↑=double height, ↓=normal height, ?=conceal, s=separated graphics, c=contiguous graphics, b=Black background, n=New background, h=Hold, r=release.

Typing text in alpha mode

By default, teletext starts in Alpha mode showing white text on black. To select new colours there are special codes together with their special key combinations. Choose Alpha colours if you want to add coloured text. Most printable characters can be typed using the corresponding symbol on the keyboard. Some characters are not available on a UK keyboard so there are key mappings implemented. See the page titled Quick Reference for the special character list. You should print this page out until you memorise all of the special codes!

Non printable codes are also listed in the Quick Reference. Not all codes are handled by the editor such as Start Box and End Box. You won't see any effect in the editor. It will however work when you display the page on an inserter or another editor or viewer that supports it.

Undo

Undo in the menu or Ctrl-Z removes typed characters. You can only undo typed characters. Undo does not apply to any other operations [yet].

Clipboard

The usual commands for copy and paste are available in the Edit menu and also with special keys.

First drag out a marquee rectangle on the page and copy it to the clipboard using Ctrl-C.

Then click at the top left location where you want to place the text and type Ctrl-V.

Paste into the same page, or a different subpage or even a different instance of wxTED. You can also cut and paste to and from any other text based application.

Ctrl-C – Copy the selected area.

Ctrl-V – Paste into the location of the cursor.

Ctrl-A - Select the entire page with Select All.

[Ctrl-X – does NOT do a cut as this key is used for Release Graphics.]

Graphics

Teletext is famous for its blocky graphics mode. Graphics may be done in a maximum resolution of 78 by 72 pixels.

Preparing a line for graphics

First you need to select graphics mode. For a single foreground colour on black, place one of the graphics codes at the left hand start of the graphic. This makes the rest of the line graphics in that colour. For example, CTRL-F2 would select Graphics Green.
For a different background colour you need to select that colour, send it to the background with "New background", and select the foreground colour.
Yellow on blue would be three codes: Set blue, New Background, Set graphics yellow, for which you would type SHIFT-F4, CTRL-B, CTRL-F3.

Drawing in a graphics region

When the cursor moves into a graphics then the cursor becomes pixel sized. In line with the retro nature of wxTED the mouse is not used for drawing. To toggle the pixel colour under the current cursor location press the space bar. You'll find it easier to work on a graphic if you enlarge the page by dragging one of the corners of the app.

Hold/Release graphics are not implemented yet as it does my head in just thinking about it.

In graphics mode there is a special exception for capital letters. You may type in upper case letters and a few special characters while in graphics mode. You can mix graphics and text without needing gaps caused by the extra control codes. To ensure that your character goes where you expect it, first move the cursor to the location that you want it. Then adjust the cursor position so that the sub pixel numbers are 0. In other words, the number after the decimal points should be 0 like this: (16.0, 15.0). The then shows the top left corner of the 2x3 space where the text will go.
In graphics mode the cursor will usually use the pixel coordinate. But if character code is a control code or a capital letter and not actually a graphic character the cursor will move in whole character steps.

Drawing using the QWASZX keys

Each character position in graphics mode is a 2x3 array of pixels. As well as using the space bar to toggle the current pixel, you can also use keys to toggle the individual mosaic pixels within the current character. QWASZX keys will toggle pixels while you are in a graphic region. You may find it helpful to show hidden codes and you can do this by pressing Alt Gr.
QW
AS
ZX

Exercise – Draw your first graphics

1) Select File->New to get a blank page. Put the cursor in column 0 of the first row. CTRL-F3. This makes the rest of each row Graphics Yellow. Notice that the cursor becomes small. Press left arrow key then down arrow to go to the next row and type CTRL-F3 again. Repeat for all the rows so the whole page is graphics yellow..

2) When you click anywhere after the first character on the page the cursor will go small indicating that this is in graphics mode.

3) To set the current pixel press Space. The pixel will go yellow. If you press it again the pixel will toggle between background colour (black) and foreground (yellow).

4) Move the cursor using the arrow keys and toggle pixels using Space to draw a whole picture.
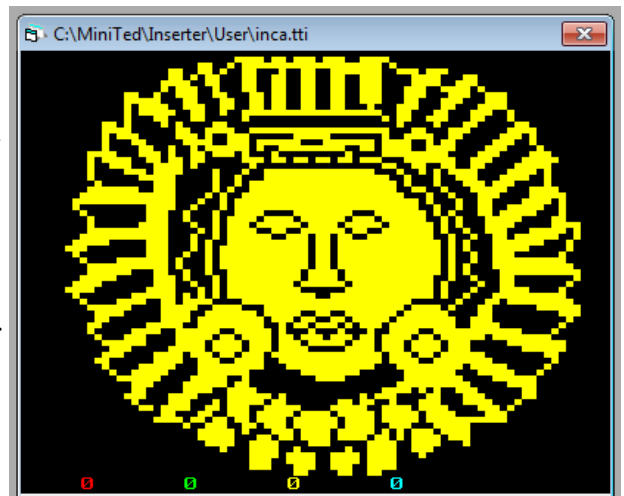
Exercise – Make a graphical banner headline

A graphical banner is typically used to make a decorative header. You will make a new page and set up the top three rows for white on blue graphics. You will then set individual pixels to design your graphic.

1)   Make a new page using the menu File->New.

2)   Click at the start of the first row under the heading. The cursor address in the status bar should be (0,1).

3)   We are going to use a blue background with white graphics. The codes that you need are Blue/New background/Graphics White. So type in Shift-F4, Ctrl-B,Ctrl-F7

4)   Repeat this for the start of the next two lines.

5)   Now move the cursor to at least column 3 and press space to toggle the pixel under the cursor. Use the arrow keys to move the cursor. You can also use the QWASZX keys to address mosaic pixels within a character position.

Special Codes in Detail

Hold Graphics (CTRL-W)

Hold graphics is a trick that can put pixels over control codes where there would otherwise be gaps.

In graphics mode the character positions are divided into six pixels as two across and three high.

Hold graphics uses this simple rule:

When you add a Hold Graphics in position that has graphics mode selected, the last graphic character containing graphics pixels is repeated This means that you can have a graphic character in a location where you are putting control codes. So you can change colours and add attributes like flash without needing a gap.

You don't need to stick with the same graphic character on a row. You can put another character in and the hold will change to that character.

Hold Graphics is cancelled by Release Graphics CTRL-X.

Conceal (CTRL-R)

Conceal is used for quiz pages or hiding a surprise on a page which can be displayed by pressing Reveal on a TV remote control.

If you type CTRL-R the remainder of the line will be concealed. It tells the TV to replace text with spaces and the Reveal button on the TV remote control will toggle the text on and off. Conceal is cancelled by any colour code.

WxTED defaults to showing the concealed text. To preview the effect of Conceal press F11 to toggle the visibility of the text. The menu option Presentation->Toggle Conceal does the same thing as F11.

Black Background (CTRL-U)

The best way to return to a black background is to issue this code. In higher level displays it is possible to issue Black foreground and New background but this method only takes one byte and is compatible at Level 1.

Carousels

A teletext carousel is a set of individual pages that rotate like a slide show. Some of the pages bundled with wxTED are carousels. For a single page the status line underneath the page will show 1/1. If is more than one page then the second number will show the total number of pages. If a page is visible then you can edit it. So you can flick through a page set and edit the one that you want.

To navigate through the pages use the Page Up (Pg Up) and Page Down (Pg Dn) keys. You can also use the mouse scroll wheel. You will see the page/total indicator go up and down as well as the pages changing.

How to add or remove carousel pages

The menu has options to add and remove sub pages.

Edit-->Insert subpage after this one

Edit-->Delete this subpage

The status bar shows you how many pages there are in the carousel, and which one you are currently looking at.

Languages

There twenty six languages arranged into sets. You can assign one language to a page and this is selected by using Presentation->Region and then the Presentation->Language menu. The languages in teletext level 1 depend on the region. WxTED assumes that the region is western Europe and that is this set:

- English,

- French,

- Swedish/Finnish/Hungarian

- Czech/Slovak

- German

- Spanish/Portuguese

- Italian

Note that in a carousel, all pages use the same language. This is a restriction of wxTED rather than the teletext standard.

Region

Languages are handled in sets. If you are using level 1 then you should only use Region 0 languages which are the ones above. Higher levels of teletext such as 2.5 and 3.5 add a region option. WxTED implements this as a menu option in Presentation->Region. When you choose a new region it populates Presentation->Language with a different set of languages. The languages are based on five different sets: Latin, Greek, Cyrillic, Arabic and Hebrew. On top of this there are national variations in things like punctuation, accents and currency symbols.

All of the languages defined in ETSI are implemented. These are the basic languages that can be added. There are more language extensions but they aren't implemented in wxTED yet. These will let you choose secondary character sets and define your own characters.

How do you type these characters if you don't have the appropriate keyboard? You'll have to work out the mappings for yourself. All the characters will be somewhere so open a new page and draw your own keyboard map.

Example:

To set Greek on a page, select Presentation->Region and select Tur/Gre. Then Presentation->Language and select Greek.

Page Properties

As well as the text, pages have certain properties. To set these properties select the Presentation menu. A dialog appears with various options.

Page Number

A page number is given as a five digit number mppss such as 10000 where

m: The magazine number in the range 1..8.

pp: The hex page number in the range 00 to FF

ss: The subpage number in the range 00..99

If there is only one page then the subpage should be set to 00.

Description

This is a line of text that describes the page. It is usually a helpful comment.

Cycle Time

For carousels this determines how often they change page. If Cycled is set then the page is updated after the whole magazine has been transmitted the number of times counted in the Cycle time.

If Timed is set then it will wait for the specified number of seconds before changing page. Don't use too many timed pages as they will begin to delay each other.

VBIT and Teefax use timed mode only.

C Flags

C flags are transmitted in the page header and are commands to the receiver that affect presentation. They are only useful in an actual teletext stream. For viewers and editors they have no effect. Some of the C flags will get replaced by the inserter as these settings are global to the service rather than a page property.

C4 Erase Page – Erase the page before redrawing it. Erase page guarantees that old information will be removed. If the page has changed then you might want to send this on the first update to make sure that a page is completely cleared. Normally this bit is left off so that if a line is lost in transmission the gap can be filled on the next transmission of the page. If the bit is left on then updates can be distracting as the screen goes black and redraws.

C5 Newsflash – The inserter will go to overlay mode without a header. Normally a newsflash is displayed in a box.

C6 Subtitle – Text will be mixed over the background video and without a header. Not sure how this is different to C5 except to signal intent to decoders.

C7 Suppress header – Sometimes you don't want a header displayed. This flag will remove the header and make a clean page.

C8 Update – Is used for partial updates where only some of the lines are updated. WxTED does not support partial updates (and probably never will).

C9 Interrupted sequence. This is an inserter function. Not relevant in the page settings.

C10 Inhibit display – Rows should not be displayed. Ensure that special packets don't get displayed accidentally. Also can be used for regional distribution where there header gets replaced by a databridge. In the unlikely event that you require engineering pages with this flag set I will implement it.

C11 Serial Magazine. - Transmit in serial mode. Not relevant at page level so not implemented in wxTED. VBIT will ignore this anyway.

Other control bits:

Substitute page: This is not supported by VBIT. I think it was used to move subtitles to other pages.

Transmit Page: Used to remove a page temporarily. A page can be skipped instead of deleted so it is

fast to bring it back when needed. Normally set this flag.

Header

wxTED has a built-in header editor. The header doesn't get saved in a separate page, it is treated as row 0 of the page and is saved embedded with the page.

To see the header row, go to the menu item Presentation->Show Header and set the check mark on. The header will then appear.

To edit the header just move the cursor into the header. You can then start editing it almost like a normal text row. While editing the row it will revert to raw data so you can see the template codes. When you move away from row 0 it will return to being the normal header. Any template fields will be replaced.

A template is normal text with some special codes in it. Here is a sample:

XXXXXXXXTEDFAX mpp DAY dd MTH ƒ hh:nn.ss

And this is what it generates.
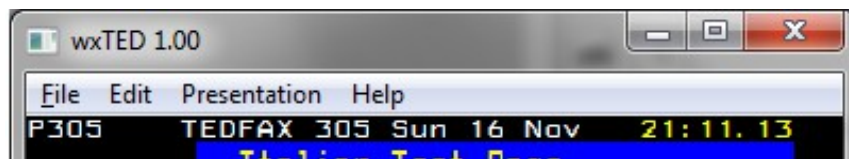
Special codes in this template extract the date and time. The localtime is used so the names will be based on what your PC locale is set to.

VBIT and MRG Systems Templates

The templates are text substitutions for the header row. When certain characters are found then they are substituted for a data field. Month and Day names come from the Locale so they will change according to your default language. These percentage codes also work in the config file of VBIT but the legacy codes are only supported in wxTED.

Percentage Escape	Legacy	Description	Characters	Example
%%#	mpp	Page number	3	401
%d	dd	Date	2	25
%e		Date without leading 0	2	3
%m	uu	Month	2	12
%y	yy	Year	2	16
%%a	DAY	Day name of week	3	Mon
%%b	MTH	Month name	3	Dec
%H	hh	Hour (real time)	2	14
%M	nn	Minute (real time)	2	37
%S	ss	Second (real time)	2	52

Commonly used clock templates are:

%H:%M:%S	%H:%M/%S	%H:%M.%S	%H%M:%S	%H%M/%S	%H%M.%S	%H%M(%S)

Using Headers

In a teletext transmission system the headers are generated by the teletext inserter and are not a page property. While wxTED supports headers this feature is for cosmetic reasons, it makes the page resemble what it would look like on a real teletext system.

When using a real inserter you will usually get only one header and it isn't a property of the page. Whatever you put as the header in wxTED will be ignored. You need to configure your inserter to use the header that you want. Strictly speaking you could get your inserter to use more than one header but this wasn't used very often. It was mainly used for regional magazines.

Publishing

The exciting bit about teletext is making it go live so that the World can see your creation. WxTED offers publishing by FTP. If required it may be possible to implement publishing to TED Scheduler, VBIT, local folder, MRG Serial, MRG Network or Astet.

FTP

If you have a server with FTP then you can send files directly to it. FTP is used for exchanging files and web servers will typically have FTP available.

If you are running a Droidfax on a website then you can use Publish to make pages live.

To access an FTP server you need an account with uploading privilege. You will need:

1) FTP Server. This is the internet address. Enter the address without the ftp://. This is an example of an FTP server
   ftp.nluug.nl

2) Username: The username that you have been assigned on the FTP server.

3) Password: The password that you have been assigned on the FTP server

4) Remote path: The path on the remote server. Here is an example:
   htdocs/teletext/

If you have trouble then in a Windows file window put this address in, obviously using your own ftp details.:

ftp::// \<your ftp server\>

You will be asked for the password. If you are successful then you will be able to browse the remote folders.

TED Scheduler (Windows only)

TED Scheduler is a program from MRG Systems Ltd. that can control a variety of inserters. WxTED can use the MiniTED interface to TED Scheduler and so gain access to many types of inserter. WxTED writes pages and schedules to a file which TED Scheduler executes. A default installation will create a folder called c:\minited\inserter\ and you should install wxTD in that folder. When Publish is selected then WxTED will copy the page into the OnAir folder with a generic filename **Pnnn.tti.** It will also create a Schedule file with instructions on how to publish the page. When TED Scheduler sees the schedule it executes it. When completed successfully the schedule is archived.

TED Scheduler can also handle inserter configuration and manage time and date. It can also schedule pages for transmission or deletion.

You don't actually need TED Scheduler as it is a useful to be able to publish to an OnAir folder. For example you can configure Droidfax to look at the OnAir folder. The reformatted filenames are exactly what Droidfax needs.

Todo list

This release has some things not implemented.

1) Ports for Linux and Mac OSX. If you want it badly enough and you know any C++ then join the wxTED project on Github.

2) Change double height code to use alternate font set rather than scale

Partly Implemented

In the Menu if an option is not implemented then a pop-up will warn you.

Special codes below can be entered, but they only work when the page is viewed on a TV or a viewer program.

1. End Box/Start Box

Bugs

1. CT command not implemented correctly. It should be possible to set the timing of each page but only the first value is used and it is global. In practise, VBIT ignores it anyway. It will need to be implemented correctly in order to do animation.

2. Save As adds .tti when it shouldn't. You might need to rename files until I fix it.

3. Publish path should add a slash at the end if the user doesn't put one in.

4. Not really a bug but wxTED FTP uses ASCII mode. Apparently this means that CRLF on Windows gets turned into LF on my web server. Droidfax was updated to cope with LF as a line terminator.

wxTED Quick Reference

Code	Key	Code	Key
Alpha Red	SHIFT-F1	Graphics Red	CTRL-F1
Alpha Green	SHIFT-F2	Graphics Green	CTRL-F2
Alpha Yellow	SHIFT-F3	Graphics Yellow	CTRL-F3
Alpha Blue	SHIFT-F4	Graphics Blue	CTRL-F4
Alpha Magenta	SHIFT-F5	Graphics Magenta	CTRL-F5
Alpha Cyan	SHIFT-F6	Graphics Cyan	CTRL-F6
Alpha White	SHIFT-F7	Graphics White	CTRL-F7
Flash	CTRL-H	Contiguous graphics	CTRL-D
Steady	CTRL-I	Separated graphics	CTRL-T
End Box	CTRL-J	Black background	CTRL-U
Start Box	CTRL-K	New background	CTRL-B
Normal height	CTRL-L	Hold graphics	CTRL-W
Double height	CTRL-M (Enter)	Release graphics	CTRL-X [may change]
Conceal display	CTRL-R		

Key ➔	English	French	Swedish	Czech	German	Spanish	Italian
#	£	é	#	#	#	ç	£
$	$	ï	¤	ů	$	$	$
@	@	à	É	č	§	¡	é
[	←	ë	Ä	ť	Ä	á	°
\	½	ê	Ö	ž	Ö	é	ç
]	→	ù	Å	ý	Ü	í	→
^	↑	î	Ü	í	^	ó	↑
_	#	#	_	ř	_	ú	#
`	—	è	é	é	°	¿	ù
{	¾	â	ä	á	ä	ü	à
|	‖	ô	ö	ě	ö	ñ	ò
}	¼	û	å	ú	ü	è	è
~	÷	ç	ü	š	ß	á	ì
¬	■	■	■	■	■	■	■

Other Special Keys

These are keys that do not modify a page

Page Up – Next carousel page	**Page Down** – Previous carousel page
F11 – Toggle Concealed text	

TODO: Tables for keyboard mapping for the remaining languages.

NAQS – Never Asked Questions

Why can't I edit the whole top row?

The teletext standard steals the first 8 bytes from the row0 for control purposes. wxTED will not let you edit in this region. You may see spaces or XXXXXXXX but these will get removed and replaced at display time.

I put a different header on each page. Why doesn't my inserter show this?

A teletext service can only have one header. Well it could but trust me you wouldn't want that and real inserters don't allow you to do that. Although wxTED has the convenience of being able to add row 0 to a page, sending the page to a real inserter will discard your row 0 and create its own.

Why isn't drawing with a mouse implemented?

It complicates things a lot to allow the user to draw with a mouse. In practise it wouldn't possible to draw with the precision that is required. Drawing with the cursor keys and space bar allows you to target individual pixels, especially if you enlarge the canvas.

Why aren't there GUI buttons for special codes?

Buttons are naff clutter in the interface. Buttons are slow to use. Buttons either have puzzling icons or mysterious text. Current teletext editors all have the same rows of buttons, Cebra and MiniTED I'm looking at you. I can't be bothered to do any GUI that isn't the actual page. For all these reasons there are no buttons. If you want buttons just grab the source on SVN and you can have a go at adding the code.

Where is the C++ source code?

On Google projects under wxTED. It is open source under an MIT license. The development system uses Code::Blocks and wxWidgets with a little help from wxSmith, hence the wx part of wxTED.

When will it load other teletext file formats?

MRG TTI, Cebra TTX, VTX and FAB EP1 are implemented for import only. If you have some sample pages and documentation I can add them.

Why are there only seven language options?

Language options come in sets of seven called codepages. These sets are West Europe and East Europe. Character sets like Greek, Russian and Arabic are available in teletext level 2.5. wxTED has a Region extension which lets you select a different codepage. Be aware that so far only wxTED uses the region selector. To be compatible with anything else you should only use region 0.

Can I bundle wxTED with my inserter?

Sure, why not? Talk to me about how to integrate wxTED into a system.

What can I do with any pages that I make?

Pages are saved in MRG tti format. They can be directly loaded into any MRG Systems inserter such as the ATP620 and DTP600 which you can get from an auction site for about £30 these days. They will also work on any VBIT inserter and on the Teefax Javascript viewer. If you send them to edit.tf they might publish it on their teletext service.

Where are the teletext specifications?

The standards document is ETSI EN 300 706 V1.2.1. If you want to develop wxTED this is a very useful reference.

What is the roadmap for development in November 2014?

1) Get carousels working. DONE in 0.02beta

2) Get Presentation properties working including language support and control flags. Language support done 0.03b (West Europe only) DONE in release 1.00.

3) Implement Publish, which will send the current page to an inserter or viewer such as VBIT/Teefax/Droidfax/ATP620/DTP620. FTP Publish DONE for 1.02.

4) Implement the edit menu.. Done 1.05

5) Migrate to other platforms. A Debian version so that you can run it on a Raspberry Pi. A Mac version is possible but it will have to wait until somebody lends me a Mac.

Revision History

WxTED 0.00 Beta. 09-11-2014 Released to teletext40 only. Initial version with many things missing.
WxTED 0.01 10-11-2014 Added New menu command. Added Save As dialog. Improved handling of null lines.

WxTED 0.02 11-11-2014 Implemented double height graphics. Applied principal of least astonishment to cursor movement across Graphics/Alpha transitions. Fixed Save As bug. Added carousel. Added OnFocus to kill the cursor while inactive.

WxTed 0.03 13-11-2014 Added Presentation menu and language option.

WxTED 1.00 15-11-2014 Added Properties dialog to Presentation menu.

WxTED 1.01 16-11-2014 Added option to display and edit headers.

WxTED 1.02 25-11-2014 Added: Conceal and Hold Graphics. Persistence for GUI size as frame size etc. Publish FTP dialog with config settings. Frame shows full filename of page.

WxTED 1.03 26-11-2014 New page erases filename. Do not allow double height on rows 23 or 24. File->Open dialog now accepts EP1 and TTX page files.

WxTED 1.04 07-12-2014 Removed duplicate properties menu link. Added Fastext links to Properties. Fixed line validation segfault and other validate() faults. Fixed bug that failed to save the last subpage. Fixed output line OL length for escaped text.//Fixed SaveAs filename bug.

WxTED 1.05 16-12-2014 Mouse scroll wheel can select pages of carousels. Added Undo CTRL-Z. Add marquee for editing. Added CTRL-C for Copy and CTRL-V for Paste. Ctrl-A is select all. Moved New Background to CTRL-B. Restored the Exit function – you can now close the application!

WxTED 1.06 20-12-2014 Support for all ETSI languages. You'll have to make your own character maps and work out what key does what. Cut and paste between wxTED and other applications only works correctly for English, or between teletext pages of the same language.. Will need make an inverse function of the mapping function.

Wxted 1.07 xx.yy.201z

For more recent version details, check the Github commit history.

https://github.com/peterkvt80/wxted/commits/master

Development of wxTED

These are the instructions for setting up WxTED to develop it on Windows. You can also develop on Linux or Mac but you'll have to invent your own instructions.

Source code

Ideally you want to become a project member so that you can commit updates. But if you don't want to be a member you can still get all of the code. The code sits on GitHub so ideally you will install GitHub Desktop.

Code can be grabbed at this URL.

https://github.com/peterkvt80/wxted

There are several ways to get the code. If you just want the code then download the Zip. It is better to clone the project with GitHub so that you can keep it up to date with any changes.

I put my development folder as

e:\dev\wxted

To compile you'll need Code::Blocks. Make sure that you get the version with the mingw compiler.

WxWidgets

wxwidgets provides all of the GUI features for wxted. The project as configured uses WxSmith which provides an IDE form designer for wxwidgets.

Get wxWidgets from https://www.wxwidgets.org/

At the time of writing the Windows version was 3.0.2

Setting up instructions:

https://wiki.wxwidgets.org/CodeBlocks_Setup_Guide

So where is the bin folder of mingw?

If you left it in the default location it will be

C:\Program Files (x86)\CodeBlocks\MinGW\bin

Start-> Control panel->System and Security->System->Advanced system settings

and select Environment variables. Edit the PATH variable to add the MinGW/bin path.

Now we need to compile everything

Open a cmd window and navigate to your wxWidgets folder

e:

cd \dev\downloads\wxWidgets302\build\msw

clean the project

```
mingw32-make.exe -f makefile.gcc clean
```
then compile it but first set these options in config.gcc

USE_XRC=1 (use the gui)

UNICODE=1 (use unicode. WxTED needs this)

MONOLITHIC=1 (Use single library, instead of lots)

SHARED=1 (Not sure what this does)

DEBUG=release (do not use debug, it makes the dll massive)

Then compile

```
mingw32-make.exe -f makefile.gcc
```

Making it compile

To compile, click on the **Build and run** button or the **Debug / Continue button.** Watch all the cryptic errors pop up. You will very likely need to set up the search directories, linker settings and move the dll into the release and debug folders.

Search Directories

Start Code::Blocks and open wxted.cbp. Try to compile it.
Fatal error can't find wx/gdicmn.h
Yeah, your Search directories are different from mine.
Go to
Project->Build Options and select the Search Directories.
Change the build directory under the Compiler and the Resource Compiler tab from
C:\wxWidgets-3.0.2\include
to your own which might be
E:\dev\downloads\wxWidgets302\include

Link Options

linker settings/ other linker options should already set be set correctly if you are using the Code::Blocks project. You shouldn't need to do anything. threads and wininet are required for the ftp publishing function.
-mthreads
-lwininet

More Search Directories

Fatal error wx/setup.h not found. Hmmm.

Why do I get errors about setup.h not being found?

When you build the wxWidgets library, setup.h is copied from include/wx/msw/setup.h to e.g. lib/vc_msw/mswd/wx/setup.h (the path depends on the configuration you're building). So you need to add `lib/vc_lib/mswd` to your include path if building using the static Debug library, or `lib/vc_lib/msw` if building the static Release library.

In plain English, find where the msw version of setup.h is and set your path accordingly. Mine is at

E:\dev\downloads\wxWidgets302\lib\gcc_dll\mswud

so add this to the include search but make it the top search because this needs to be found first.

Linker Setup

Next problem is that -lwxmsw30u can not be found. Go into

Project Build Options->Linker Settings and add the relative path to your library in Link Libraries.

Mine is

..\downloads\wxWidgets302\lib\gcc_dll\libwxmsw30u.a

or better still add the location to the search directories.

Runtime Library

Finally you'll not be able to run the program so you'll need to grab the dll and put copies in the debug and release folders. Mine is called wxmsw30u_gcc_custom.dll

Oh yes, it works now. If you find that the link library is 163MB and the filename ends in d then this signifies the debug version. Recompile wxWidgets with DEBUG=release as it is unlikely that you will want to debug the wxWidgets library itself. Any problems, contact me (Peter).

Packaging for Release

Much of this is specific to my setup but you may find it helpful.

1) Save this manual and export it as PDF. Put it in the bin/Release folder.

2) Increment the version string. This is in wxTEDMain.h as #define VERSION_STRING wxT("1.16")

3) Set the current build to Release by selecting
   Build->Select Target

4) Select Build->Rebuild

5) Run wxTED. It should show the new version string in the window title bar.

6) Run Inno Script Studio using the configuration that is in the Release folder and load winpackage.iss. Set the version number by changing the following line and save it.
   #define MyAppVersion "1.16"

   Select Project->Compile.
   This creates a setup.exe in the same folder.
   Rename setup.exe to include the version number like setup_1_16.exe.

7) Publish.
   Copy setup_x_yy.exe to e:\dev\wxted-web-release.
   Edit index.html to reflect the new file.
   Upload the changed files to the home page for wxTED at
   http://teastop.co.uk/teletext/wxted/

Winpackage.iss

This is my Inno Script Studio packaging file. You may find it helpful.

```
; Script generated by the Inno Script Studio Wizard.
; SEE THE DOCUMENTATION FOR DETAILS ON CREATING INNO SETUP SCRIPT FILES!

#define MyAppName "wxTED"
#define MyAppVersion "1.13"
#define MyAppPublisher "Peter Kwan"
#define MyAppURL "teastop.co.uk/teletext/wxted"
#define MyAppExeName "wxTED.exe"

[Setup]
; NOTE: The value of AppId uniquely identifies this application.
; Do not use the same AppId value in installers for other applications.
; (To generate a new GUID, click Tools | Generate GUID inside the IDE.)
AppId={{BF8D5847-6816-45D9-AB36-99F50155DCE4}
AppName={#MyAppName}
AppVersion={#MyAppVersion}
;AppVerName={#MyAppName} {#MyAppVersion}
AppPublisher={#MyAppPublisher}
AppPublisherURL={#MyAppURL}
AppSupportURL={#MyAppURL}
AppUpdatesURL={#MyAppURL}
DefaultDirName={pf}\{#MyAppName}
DefaultGroupName=wxTED Teletext Editor
AllowNoIcons=yes
OutputDir=E:\dev\wxTED-GitHub\wxted\bin\Release
OutputBaseFilename=setup
Compression=lzma
SolidCompression=yes

[Languages]
Name: "english"; MessagesFile: "compiler:Default.isl"
```

[Tasks]

Name: "desktopicon"; Description: "{cm:CreateDesktopIcon}"; GroupDescription: "{cm:AdditionalIcons}"; Flags: unchecked

[Files]

Source: "E:\dev\wxTED-GitHub\wxted\bin\Release\wxTED.exe"; DestDir: "{app}"; Flags: ignoreversion

Source: "E:\dev\wxTED-GitHub\wxted\bin\Release\wxmsw30u_gcc_custom.dll"; DestDir: "{app}"; Flags: ignoreversion

Source: "E:\dev\wxTED-GitHub\wxted\bin\Release\BBC100.tti"; DestDir: "{app}"; Flags: ignoreversion

Source: "E:\dev\wxTED-GitHub\wxted\bin\Release\manual.pdf"; DestDir: "{app}"; Flags: ignoreversion

Source: "E:\dev\wxTED-GitHub\wxted\bin\Release\sample pages*"; DestDir: "{app}"; Flags: ignoreversion recursesubdirs createallsubdirs

Source: "E:\dev\wxTED-GitHub\wxted\bin\Release\teletext2.ttf"; DestDir: "{fonts}"; FontInstall: "teletext2"; Flags: onlyifdoesntexist uninsneveruninstall

; NOTE: Don't use "Flags: ignoreversion" on any shared system files

[Icons]

Name: "{group}\{#MyAppName}"; Filename: "{app}\{#MyAppExeName}"

Name: "{commondesktop}\{#MyAppName}"; Filename: "{app}\{#MyAppExeName}"; Tasks: desktopicon

Name: "{group}\Manual"; Filename: "{app}\manual.pdf"

[Run]

Filename: "{app}\{#MyAppExeName}"; Description: "{cm:LaunchProgram, {#StringChange(MyAppName, '&', '&&')}}"; Flags: nowait postinstall skipifsilent