mPDF

ChangeLog

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============================
mPDF 5.6
20/01/2013
============================

Files changed
-------------
mpdf.php
config.php
includes/functions.php
classes/meter.php
classes/directw.php


config.php changes
------------------
$this->allowedCSStags - added HTML5 tags + textcircle AND
$this->outerblocktags - added HTML5 tags
$this->defaultCSS  - added default CSS properties


New features / Improvements
---------------------------
CSS support added for for min-height, min-width, max-height and max-width in <img>

Images embedded in CSS
      <img src="...."> improved to make it more robust, and
      background: url(data:image... now added to work

HTML5 tags supported
- as generic block elements:
<article><aside><details><figure><figcaption><footer><header><hgroup><nav><section><summary>
- as in-line elements: <mark><time><meter><progress>
- <mark> has a default CSS set in config.php to yellow highlight
- <meter> and <progress> support attributes as for HTML5
- custom appearances for <meter> and <progress> can be made by editing classes/meter.php file
- <meter> and <progress> suppress text inside the tags

Textcircle/Circular
font: "auto" added: automatically sizes text to fill semicircle (if both set) or full circle (if only
one set)
      NB for this AND ALL CSS on <textcircle>: does not inherit CSS styles
attribute: divider="[characters including HTML entities]" added
<textcircle r="30mm" top-text="Text Circular Text Circular" bottom-text="Text Circular Text Circular"
      divider=" &bull; " style="font-size: auto" />

&raquo; &rsquo; &sbquo; &bdquo; are now included in "orphan"-management at the end of lines

Improved CJK line wrapping (if CJK character at end of line, breaks there rather than previous
wordspace)

NB mPDF 5.5 added support for <fieldset> and <legend> (omitted from ChangeLog)

Bug fixes
---------
- embedded fonts: Panose string incorrectly output as decimals - changed to hexadecimal
      Only a problem in limited circumstances.
      *****Need to delete all ttfontdata/ files in order for fix to have effect.
- <textCircle> background white even when set to none/transparent
- border="0" causing mPDF to add border to table CELLS as well as table
- iteration counter in THEAD crashed in some circumstances
```

```
- CSS color now supports spaces in the rgb() format e.g. border: 1px solid rgb(170, 170, 170);
- CJK not working in table following changes made in v5.4
- images fixed to work with Google Chart API (now mPDF does not urldecode the query part of the src)
- CSS <style> within HTML page crashed if CSS is too large  (? > 32Kb)
- SVG image nested int eht HTML failed to show if code too large (? > 32Kb)
- cyrillic character p &#1088; at end of table cell caused cell height to be incorrectly calculated


==========================
mPDF 5.5
02/03/2012
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Files changed
-------------
mpdf.php
classes/ttfontsuni.php
classes/svg.php
classes/tocontents.php
config.php
config_fonts.php
utils/font_collections.php
utils/font_coverage.php
utils/font_dump.php

Files added
-----------
classes/ttfontsuni_analysis.php

config.php changes
------------------
To avoid just the border/background-color of the (empty) end of a block being moved on to next page
(</div></div>)
$this->margBuffer = 0;           // Allow an (empty) end of block to extend beyond the bottom margin
by this amount (mm)

config_fonts.php changes
------------------------
Added to (arabic) fonts to allow "use non-mapped Arabic Glyphs" e.g. for Pashto
      'unAGlyphs' => true,

Arabic text
-----------
Arabic text (RTL) rewritten with improved support for Pashto/Sindhi/Urdu/Kurdish
      Presentation forms added:
      U+0649, U+0681, U+0682, U+0685, U+069A-U+069E, U+06A0, U+06A2, U+06A3, U+06A5, U+06AB-U+06AE,
      U+06B0-U+06B4, U+06B5-U+06B9, U+06BB, U+06BC, U+06BE, U+06BF, U+06C0, U+06CD, U+06CE, U+06D1,
U+06D3, U+0678
      Joining improved:
      U+0672, U+0675, U+0676, U+0677, U+0679-U+067D, U+067F, U+0680, U+0683, U+0684, U+0687, U+0687,
U+0688-U+0692,
      U+0694, U+0695, U+0697, U+0699, U+068F, U+06A1, U+06A4, U+06A6, U+06A7, U+06A8, U+06AA, U+06BA,
U+06C2-U+06CB, U+06CF

Note -
Some characters in Pashto/Sindhi/Urdu/Kurdish do not have Unicode values for the final/initial/medial
forms of the characters.
However, some fonts include these characters "un-mapped" to Unicode (including XB Zar and XB Riyaz,
which are bundled with mPDF).
      'unAGlyphs' => true,
added to the config_fonts.php file for appropriate fonts will

This requires the font file to include a Format 2.0 POST table which references the glyphs as e.g.
uni067C.med or uni067C.medi:
      e.g. XB Riyaz, XB Zar, Arabic Typesetting (MS), Arial (MS)
NB If you want to know if a font file is suitable, you can open a .ttf file in a text editor and
search for "uni067C.med"
      - if it exists, it may work!
Using "unAGlyphs" forces subsetting of fonts, and will not work with SIP/SMP fonts (using characters
beyond the Unicode BMP Plane).
```

```
mPDF maps these characters to part of the Private Use Area allocated by Unicode U+F500-F7FF. This
could interfere with correct use
      if the font already utilises these codes (unlikely).

mPDF now deletes U+200C,U+200D,U+200E,U+200F zero-widthjoiner/non-joiner, LTR and RTL marks so they
will not appear
      even though some fonts contain glyphs for these characters.


Other New features / Improvements
---------------------------------
Avoid just the border/background-color of the (empty) end of a block being moved on to next page
(</div></div>)
      using configurable variable: $this->margBuffer;


The TTFontsUni class contained a long function (extractcoreinfo) which is not used routinely in mPDF
      This has been moved to a new file: classes/ttfontsuni_analysis.php
      The 3 utility scripts have been updated to use the new extended class:
      - utils/font_collections.php
      - utils/font_coverage.php
      - utils/font_dump.php


Bug fixes
---------
- Border & background when closing 2 blocks (e.g. </div></div>) incorrectly being moved to next page
because incorrectly
      calculating how much space required
- Fixed/Absolute-positioned elements not inheriting letter-spacing style
- Rotated cell - error if text-rotate set on a table cell, but no text content in cell
- SVG images, text-anchor not working
- Nested table - not resetting cell style (font, color etc) after nested table, if text follows
immediately
- Nested table - font-size 70% set in extenal style sheet; if repeated nested tables, sets 70% of 70%
etc etc
- SVG setting font-size as percent on successive <text> elements gives progressively smaller text
- mPDF will check if magic_quotes_runtime set ON even >= PHP 5.3 (will now cause an error message)
- not resetting after 2 nested tags of same type e.g. <b><b>bold</b></b> still bold
- When using charset_in other than utf-8, HTML Footers using tags e.g. <htmlpageheader> do not decode
correctly
- ToC if nested > 3 levels, line spacing reduces and starts to overlap




==========================
mPDF 5.4
14/02/2012
==========================
Files changed
-------------
mpdf.php
config.php
compress.php
classes/ttfontsuni.php
classes/barcode.php
classes/indic.php
classes/svg.php
examples/show_code.php  -----  SECURITY RISK**
examples/example49_changelog.php
examples/example57_new_mPDF_v5-3_active_forms_b (replace example57_new_mPDF_v5-3_active_forms)
includes/out.php
mpdfi/fpdi_pdf_parser.php

Files added
-----------
classes/bmp.php
classes/directw.php
classes/form.php
```

```
classes/grad.php
classes/tocontents.php
classes/wmf.php
examples/example58_new_mPDF_v5-4_features

config.php changes
------------------
Edited: $this->allowedCSStags, $this->innerblocktags, $this->defaultCSS;  (CAPTION added in each case)
Moved: Numerous $form_.. variables are now in /classes/form.php

New config variables
--------------------
$this->bookmarkStyles = array();
$this->cacheTables = true;

New methods
-----------
function CircularText()
function SetVisibility()

New/Extended CSS
----------------
box-shadow (block elements - does NOT support "inset")
text-shadow (all text elements - does NOT support "blur")
visibility: visible|hidden|printonly|screenonly (block-level elements and images IMG only)
text-transform: capitalize|uppercase|lowercase (extended to support TD/TH)
tr|td|th:nth-child(odd|even|2n+1)
color, strikethrough, underline and background-color (extended to support rotated TD/TH)
underline and strike-through (extended to support TD/TH)
underline (line colour)  (extended to work correctly in watermark)
page-break-after: left|right|always (block elements and tables)
      NB respects $mpdf->restoreBlockPagebreaks = true; i.e. will make pagebreak act like formfeed
background[-color]: extended to support rgba|cmyka|cmyk|hsla|hsl|spot
border(extended to support inline elements)


New HTML
--------
<caption>
<textcircle />


New features / Improvements
---------------------------
Tables - Zebra Stripes
Tables: overlapping rowspans (partially) supported
Tables - Disk caching
Using progress bars (or $showStats) now reports 'real' memory usage i.e. get_memory_usage(true)
Support for query string in the URLs for external stylesheets e.g. @import url("style.css?ltcyy7");
Table caption partially supported
CircularText
BookMark styling
Spread tables i.e. can split table (columns) across several pages width.
Can use chelvetica, ctimes and ccourier to specify core fonts in a non-core font document
Spread tables i.e. can split table (columns) across several pages width.
{colsum} in <tfoot> cell will insert a column total per page.
SVG embedded as island in HTML supported
Active Forms
      textarea and input (text types) now accept javascript as:
      onKeystroke, onValidate, onCalculate and onFormat
      onChange is depracated but works as onCalculate (for textarea and input)
      (PS Select still accepts onChange cf. 5.3.37)
Ledger and Tabloid added as page formats recognised. NB Ledger is same as tabloid but landscape. In
mPDF, both give the same size (portrait)
so need to add -L e.g. Ledger-L for landscape.


Internal script changes
-----------------------
Changed this->k to _MPDFK throughout all scripts
```

```
Changes to color (packed binary data in string rather than array) to reduce memory usage esp in tables
Internal variables Removed
      $usetableheader;
      $tableheadernrows;
      $tablefooternrows;
vars $ChangePage, $p_bottom_border, $img_margin_top(+) $issetcolor + other similar  removed

Removed a whole load of // comments
Updates to remove some more Warning Notices (not all marked in text)
Border set on TR - changed so set on each cell, rather than retrospectively at end of TR
All references to table['text'] removed as not needed - uses ['textbuffer'] instead
OpenTag(TD) changes to reduce memory usage with tables
Includes different method to set a default timezone
fn _smallCaps does not need (undefined) $space
this->chrs and this->ords replaced by chr() and ord()
Headers in out.php updated to match those used in Output()
Change to SetFont() to improve performance time
Change to GetStringWidth() to improve performance time
Corrected copying of Glyphs 0,1,2, to all subset fonts (non-SMP/SIP), and only setting 32->127 in
subset
Subset fonts (non-SMP/SIP) have additionally Unicode CMap tables (0,0,4 and 0,3,4) as well as
Microsoft (3,1,4)
Subset fonts (SMP/SIP) have CMap tables (1,0,6 and 3,0,4) - rather than 1,0,6 and 3,0,6
Subset fonts (SMP/SIP) have 'name' table changed to give 1,0 and 3,0. As it is a symbol font (not
Unicode encoded) :
      needs to have a name entry in 3,0 (e.g. symbol) - original font will have 3,1 (i.e. Unicode)
Automatically checks for HTML code length > 100000 characters and gives error warning if
       PHP < 5.2.0 (as not configurable) or increases pcre.backtrack_limit if PHP < 5.3.7

Removed/Depracated
------------------
function UseTableHeader($opt=true)  fn removed / depracated
function UsePRE($opt=true) removed
$attr['REPEAT_HEADER'] == true            CSS removed / depracated
$this->usepre=true; removed / depracated as never needed - always respects PRE whitespace

ToC: NB Values can no longer be set directly e.g. as in example
      $mpdf->TOCheader = array();      // array as for setting header/footer
      $mpdf->TOCfooter = array();      // array as for setting header/footer
      $mpdf->TOCpreHTML = '<h2>Contents - Portrait</h2>';      // HTML text to appear before table of
contents
      $mpdf->TOCpostHTML = '';      // HTML text to appear after table of contents
      $mpdf->TOCbookmarkText = 'Content list';      // Text as it will appear in the Bookmarks (leave
blank for none)
Need to use TOCpagebreak either direct (or array version) or as HTML
OR if absolutley necessary, could use:
      $mpdf->tocontents->TOCheader = array();      // array as for setting header/footer
      $mpdf->tocontents->TOCfooter = array();      // array as for setting header/footer
      $mpdf->tocontents->TOCpreHTML = '<h2>Contents - Portrait</h2>';      // HTML text to appear
before table of contents
      $mpdf->tocontents->TOCpostHTML = '';      // HTML text to appear after table of contents
      $mpdf->tocontents->TOCbookmarkText = 'Content list';      // Text as it will appear in the
Bookmarks (leave blank for none)



Further Details
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CSS border on inline elements
-----------------------------
Support for CSS border (and variants) on inline elements e.g. <span style="border-bottom: 1px dashed
#000000;">
Border styles solid|dotted|dashed|double only are supported. Border radius not supported.
Nested inline elements will have repeat left|right borders on the nested content (unlike browsers)

Tables - Zebra Stripes
----------------------
TABLE - striped rows cf. http://dev.opera.com/articles/view/zebra-striping-tables-with-css3/
tr:nth-child(odd) { background-color: #99ff99; }
```

```
thead tr:nth-child(3n+2) { background-color: #FFBBFF; }
td:nth-child(2n+1) { background-color: #BBBBFF; }
table.zebraTable td:nth-child(2n+1) { background-color: #BBBBFF; }
table.zebraTable th:nth-child(2n+1) { background-color: #BBBBFF; }

NB mPDF does NOT correctly apply specificity to all CSS
table.zebra tbody tr:nth-child(2n+1) td { background-color: #FFFFBB; }
table.zebra tbody td:nth-child(odd) { background-color: #BBBBFF; }

should make every odd row yellow, and every odd coloumn blue, but with the row/yellow overriding the
column/blue.
In mPDF the td:nth-child(odd) trumps the plain td, so the column colour wins out. You can force the
effect you want by using
table.zebra tbody tr:nth-child(2n+1) td:nth-child(1n+0) { background-color: #FFFFBB; }

(The :nth-child(1n+0) selector just selects every td cell.)



Tables - Disk caching
---------------------
TABLES: using disk caching
// Using disk to cache table data can reduce memory usage dramatically, but at a cost of increased
// executon time and disk access (read and write)
$this->cacheTables = true;
NB          $this->packTableData will be overridden to => true;      // required for cacheTables
            $this->simpleTables will be overridden to => false;  // Cannot co-exist with cacheTables


Table caption
-------------
Must come immediately after <table...>
CSS caption-side and HTML align attribute of top|bottom supported (not attribute left|right)
Handled as a separate block element brought outside the table, so:
      CSS will not cascade correctly on the table
      width of caption block is that of page or of the block element containing the table
      so alignment will be to the page-width not the table width
      if table page-break-after: always, the caption will follow the pagebreak.
This does work:
<style>
.tablecaption { caption-side: bottom; text-align: left; font-weight: bold; color: green; }
</style>
...
<table>
<caption class="tablecaption">Caption title here</caption>
<tbody>

CSS visibility: printonly, screenonly
-------------------------------------
Roughly based on CSS

Works on Block elements P, DIV etc, or Image
Cannot nest / layer.
Inner blocks/image with set visibility are ignored if already set on enclosing block element.
(Block element) does not work inside table (image does)
So 'visible' does nothing but is set as default
(NB Changes output to PDF version 1.5)
Incompatible with PDFA / PDFX

'visibility'
    Value:        visible | hidden | (collapse | inherit)
    Initial:      visible
    Applies to:   all elements
    Inherited:    yes

The 'visibility' property specifies whether the boxes generated by an element are rendered.
Invisible boxes still affect layout (set the 'display' property to 'none' to suppress box generation
altogether).
Values have the following meanings:
```

```
visible
    The generated box is visible.
hidden
    The generated box is invisible (fully transparent, nothing is drawn), but still affects layout.
      Furthermore, descendants of the element will be visible if they have 'visibility: visible'.
collapse | inherit
    NOT supported in mPDF

CUSTOM:
printonly | screenonly


Added VISIBILITY function
$mpdf->SetVisibility('screenonly'); or 'printonly' 'visible' or 'hidden'
(NB Changes output to PDF version 1.5)
Incompatible with PDFA / PDFX

CircularText
------------
function CircularText($x, $y, $r, $text, $align='top', $kerning=120, $fontwidth=100) {
x: abscissa of center
y: ordinate of center
r: radius of circle
text: text to be printed
align: text alignment: top or bottom. Default value: top
kerning: spacing between letters in percentage. Default value: 120. Zero is not allowed.
fontwidth: width of letters in percentage. Default value: 100. Zero is not allowed

- now uses Kerning between letters if useKerning == true (set manually see example)

BookMark styling
----------------
New configurable variable to control appearance of Bookmarks e.g.
$this->bookmarkStyles = array(
      0 => array('color'=> array(0,64,128), 'style'=>'B'),
      1 => array('color'=> array(128,0,0), 'style'=>''),
      2 => array('color'=> array(0,128,0), 'style'=>'I'),
);

Column sums
-----------
(Also changed some preg_replace to str_replace to improve performance)
To use: just add {colsum} to any cells of the table footer <tfoot>
The width of the column will be calculated using the actual string {colsum} as a placeholder.
If you need the column to be wider, use underscores "_" to pad it e.g. {colsum2_____}


Spread tables
-------------
i.e. can split table (columns) across several pages width.
CSS <table style="overflow: visible">
Cannot use with:
$this->kwt - ignored
$this->table_rotate - ignored
$this->table_keep_together - ignored
$this->ColActive  - cancels spread tables

Messes up with:
$mpdf->forcePortraitHeaders = true;
$mpdf->forcePortraitMargins = true;
Problems with CJK, and RTL

Will do no resizing of fonts at all.
Maximum width of column = page width i.e. will not split columns across pages - NB will keep colspan>1
on one page
If table row too high for page will die with error message.
Will override some specs for width if this creates conflicts
Recommended to specify absolute value of width on each column.
```

```
Bug fixes
=========
Dottab - if text after dottab is hyperlinked <a></a> then dots are underlined

page-break-before now respects $mpdf->restoreBlockPagebreaks = true; i.e. will make pagebreak act like
formfeed
Annotation() function called directly with colorarray(r,g,b)

Added urldecode to _getImage to cope with ../name%20of%20image.jpg
Added urldecode AND htmlspecials_decode to href in <a> link e.g.
https://www.google.com/search?hl=en&amp;q=mpdf&amp;filename=name%20of%20file
[barcode.php] Allow   in C39 codes - will be changed to spaces

<table> inside a <div position:fixed, left:300px;> not calculating table width correctly
      - leading to either upside down table or error width less than 1 character

Depracated magic_quotes_runtime() in compress.php

DIRECTW included twice in compress.php
FORMS mark up for compress.php corrected

double backslashes not preserved inside <pre> or <textarea>

font-weight and font-style not recognised in <pageheader>

Progress bars causing corrupt PDF file (out.php) changed fopen from "r" mode to "rb" (binary)
Target around image - <a href="#internaltarget"><img ... /></a> - not working

SmallCaps in <thead> error

Fonts with "name" table in format 1 not recognised correctly
Rotated table which does not fit on remaining page, forces a new page even if already at top of page

Locale causing problems - all instances of sprintf() using %.3f changed to %.3F so not locale aware

CSS border radius not implemented on fixed/absolute positioned block element

Background color in rotated table extending way beyond bottom of table

Nested table containing <thead> or <tfoot> was confused with <thead> or <tfoot> of parent table

Correct handling of spaces, < or & in textarea

<option> and <input ..> attributes value/title decoded with fn lesser_entity_decode instead of
htmlspecialchars_decode to include &apos;

line width not restored to correct value after "line-through" text in Cell()

Kannada - incorrect positioning of Reph

Forms - In <input> or <option> (select) not correctly handling HTML named entities e.g. &lt; in value
or title
Active forms -   as Value or Title incorrectly showing as Euro - PDFDocEncoding fixed

Unicode data in embedded fonts not encrypted when doc encrypted

Nested block elements which are empty including innermost one, top margin of innermost block was
ignored

font-size: xx% inside a block was setting on block's parent font-size

Active forms - radio buttons (removed name from Widget - leave on Radio group)
      causing problems accessing field for radio buttons

When using simple tables and border-collapse, if table border set, but cell borders not set, should
display table border (fixed)
position:fixed block - if neither top nor bottom nor height specified, was positioned incorrectly (y)
Leave - if top, bottom, margin-top, margiin-bottom and height are all left unspecified (or auto), will
centre vertically
on the page (specific to mPDF - not consistent with CSS2.1)
```

```
But if any one of them are specified (including e.g. margin-top=0), follows CSS spec, so top is the
current "static" position

background-image-opacity=0 not working on BODY or BLOCK

Lists - if LI continues after a nested List, would add as a new LI item (should continue as part of
earlier LI item)

fn WriteCell() converts to 'windows-1252' when required
if multiple calls to mPDF used, cannot redefine function cmp()
internal link targets <a name="xx" /> in ToC not moved when using: page-break-inside:avoid
internal link targets <a name="xx" /> not moved when using: columns, page-break-inside:avoid,
keep-with-table or table rotate

Active Forms - onChange not working for SELECT (cf. 5.3.25) Example 57 only worked by chance as JS was
carried over from Select to Text field
Bug is fixed, but example file needed updating to onCalculate for the display field.

Table cell: if height set as %, currently sets it as % of page-width; instead this now ignores it.

Bengali letter Khanda Ta (U+09CE) character not recognised; was added in Unicode v4.1 and prior to
this, (U+09A4 U+09CD U+200D)
      so mPDF converts to this string and seems to work.

OCR characters wrong size in barcodes if using different ocr font - fixed

============================
mPDF v5.3   (21/07/2011)
============================

New Features
------------
- Active forms (see on-line manual for details)
- 128-bit encryption (optional) with additional user-permissions (see on-line manual)

PLEASE READ - Change in Font management
---------------------------------------
The font name imported from the font and included by mPDF in the PDF file was stripping any '-' in the
name.
This is the PostScript name which is utilised by some PostScript programmes.
mPDF has been changed to leave the PostScript font name unchanged. In 99% cases no difference will be
noted, but
you MUST delete all the temporary font data files cached in the  /ttfontdata/ folder for this to be
effective.


Minor changes
-------------
If @page CSS is used to select a first page with settings different from the default, mPDF did create
a blank page
      then pagebreak to the new @page settings - this has been changed so it now will start with the
new page settings.

New function added: DeletePages($start_page, $end_page=-1)  e.g. $mpdf->DeletePages(1);
      Can be used just before calling Output()

compress.php utility extended to exclude active forms and images-svg


Bug fixes
---------
- list-style-type: (custom version, user-defined bullet) colour change not working if colour is set on
the list item line
- background-image: SVG or WMF images as background-images in tables/tr/cells not working
- font-weight: bold font not always reset after inline <b>...</b> thus miscalculating width
- forms (inactive) in 'c' core fonts using unicode characters 127-255 incorrect display in input text
and button text
- form elements (inactive) if in-line with mixed size fonts, error in vertical positioning of text
related to box
- ToC: wrapped lines in ToC not retaining formatting e.g. bold style
```

```
- HTMLHeaders: using setAutoTopMargin="pad"; not correctly setting top margin for first page
- output headers changed: Content-length not used if server uses output compression
- embedded font subsets from fonts which contain non-BMP plane 0 characters (incl. e.g.
dejavusanscondensed)
      - causing Adobe Reader to create a CJK encoded font subset internally when loading interactive
Forms
      - Changed so unsets the flag in the subset font to show no non-BMP characters.


Configurable variables added (see config.php file):
-----------------------------------------------
All for Active Forms:
$this->useActiveForms
$this->formExportType
$this->formSubmitNoValueFields
$this->formSelectDefaultOption
$this->form_border_color
$this->form_background_color
$this->form_border_width
$this->form_border_style
$this->form_button_border_color
$this->form_button_background_color
$this->form_button_border_width
$this->form_button_border_style
$this->form_radio_color
$this->form_radio_background_color

PLUS: see additional values added to $this->allowedCSStags close to bottom of file - required for
Active forms


Updated files
-------------
mpdf.php
config.php  (NB as well as form stuff at top, 5.2.07 $this->allowedCSStags close to bottom of file)
compress.php
classes/ttfontsuni.php
examples/example57...
examples/formsubmit.php



===========================
mPDF v5.2   (18/06/2011)
===========================

New Features
------------------
Improvements in font handling resulting in clearer display of fonts on screen, and improved
compatibility with PostScript drivers
      (e.g. use with GSView/GhostScript, see below)

CJK line-breaking implemented (roughly) according to rules. Configurable variables allow control of
behaviour (except in tables).

Viewer preferences: added options for initial 2 page display where you can specify whether
      1st page is on left or right (cf. SetDisplayMode).

Custom list-style-type for a list (ul,ol) or a list-item (li) in which you can determine the character
and colour of the bullet:
      list-style-type: U+263Argb(255,0,0); - where U+263A is the Unicode HEX value of the character
you want for the bullet
      - character MUST be included in the font used for that list item. rgb() bit is optional


Bug fixes
---------
- Fonts: embedding a BMP TTC font (e.g. Cambria) as a full font caused error
- Table: If cell width set by CSS as %, and page-break-inside avoid requires a new page, was losing
the sizing
```

- Table: table borders CSS parsing error; if border-width, border-style, border-color set, not inherited correctly
- Table: Table background image or gradient not working in HTMLHeader/Footer
- Table: background color set on table (anywhere) will overwrite image/gradient
- Table Background image/gradient: If left/right margin is set on table, gradient/image set on table is too wide
- Table: rotated table - height (after first page does not correctly allow for thead i.e. too much)
- Table: blank <tr></tr> causes error
- Table/Letter-spacing: If letter-spacing set inside table, not calculating table width correctly, and if oversized, freezes
- ToC: ToC at top of page (non-mirrored or already ODD) did not reset page_number if told
- Character subsititutions: characters missed if first element in a $html code e.g. WriteHTML('Not in a tag ✓');
- Kerning: kerning info: if reading font file for first time (or if not cached in ttfontdata/) did not register kerning info
- Textarea: multiple new lines run into only one newline
- QRCode - colors wrong because QRcode class only accepts RGB input (hardcoded now to always give black on white)
- QRCode always producing "Your message here"
- Columns: if transforming height of column, not always closing transform Q
- CakePHP compatibility
- compress.php - error due to markup comments in mpdf.php script file

Backwards compatibility

Changes in mPDF 5.2 are backwards compatible with version 5.1
Your document fonts may appear slightly different in the PDF viewer because of the changes to embedded font subsets (cf.)
The new Indic fonts may result in a change in spacing (due to the different character width of the space character from the original font)

PostScript e.g. GSView/GhostScript

A number of errors have been reported when opening mPDF-created PDF files with a PostScript programme. Some of the errors were due to mPDF,
but others were due to peculiarities of GSView/GhostScript.
- Diacritic Characters were not displayed when embedding a font subset
- Fonts containing SIP/SMP characters (supplementary Unicode planes) caused errors
- Error with text justification (word-spacing) when embedding a full font can occur in some fonts*
The first 2 problems should now be fixed in v5.2
*The error with text justification can be optionally fixed by setting the configurable variable in config.php:
      $this->repackageTTF = true;
      When mPDF embeds a full font, it simply embeds the whole original TTF file into the PDF document. For some fonts (containing
      a GSUB table) this was causing problems. $this->repackageTTF forces mPDF to repackage the original TTF file excluding some of
      the tables like GSUB.
(See ADDITIONAL INFO FONTS.txt in downloaded files)

Font appearance in PDF viewer

Font subsetting has been improved to include additional information in the embedded file. Overall the effects are of greater clarity
when viewing the document on a screen (it will not affect print output), but the changes are dependent on:
- the original TTF font i.e. the options that the font's author has built into the file
- the PDF viewer i.e. whether the programme chooses to use the available information
- the resolution (zoom) of the page you are viewing
(See ADDITIONAL INFO FONTS.txt in downloaded files)

Indic fonts

A new set of Indic fonts (ind_xx_1_001) is distributed with version 5.2 containing the additional font information as described above.
In addition, some changes have been made to the ASCII characters in the font from the files previously distributed:
The original files (Raghu font files) do not contain the characters a-z and A-Z. When the first

```
version indic files were created for mPDF,
ALL of the ASCII characters (32-127) were inserted/overwritten from DejaVuSansCondensed to make the
font more usable.
In the latest version, only the missing characters are taken from DejaVuSansCondensed, leaving
punctuation and numerals from the original
fonts. This also means that the space character has a different width, and this will cause slight
changes to the word spacing in documents.
(See ADDITIONAL INFO FONTS.txt in downloaded files)


CJK line-breaking (text wrapping)
---------------------------------
CJK (chinese-japanese-korean) text often contains no spaces. mPDF previously has wrapped text whenever
a character reached the end of
the line. mPDF version 5.2 attempts to follow the line-breaking rules described for each of the
languages. Configurable variables
allow some control over this behaviour, especially whether to squeeze a character into the space
available at the end of a line, or
whether to allow it to overflow the right margin.


Configurable variables (see config.php file):
---------------------
Control wrapping of CJK text:
      $this->allowCJKorphans = true;      // FALSE=always wrap to next line; TRUE=squeeze or overflow
      $this->allowCJKoverflow = false; // FALSE=squeeze; TRUE=overflow (only selected)
When Embedding full TTF font files, remakes the font file using only core tables
May improve function with PostScript printers
      $this->repackageTTF = false;

Updated files
-------------
mpdf.php
compress.php
utils/font_dump.php
classes/ttfontsuni.php
config.php (3 new variables - see above)

All ttfonts/ind_*
New set of Indic fonts for PostScript compatibilty - and clearer font display



==========================
mPDF v5.1   (27/02/2011)
==========================

New Features
------------
- CSS background (images, colours or gradients) on <TR> and <TABLE>
- CSS border on <TR> (only in border-collapsed mode)
- support for Mozilla and CSS3 gradient syntax:
      -moz-linear-gradient, linear-gradient
      -moz-radial-gradient, radial-gradient
      -moz-repeating-linear-gradient, linear-repeating-gradient
      -moz-repeating-radial-gradient, radial-repeating-gradient
- expanded support for gradients (including in SVG images):
      - multiple colour 'stops'
      - opacity (transparency)
      - angle and/or position can be specified
- gradient can be used as an image mask (custom mPDF styles: gradient-mask)
- image-orientation supported for <IMG> (similar to existing custom mPDF attribute: rotate) [CSS3]
- image-resolution supported for <IMG> [CSS3]
- background-image-resolution (custom mPDF CSS-type style) to define resolution of background images
- improved support for SVG images
- SVG and WMF images supported in background-image
- file attachments
- numeric list-styles added e.g. arabic-indic, bengali, devanagari, persian, thai [CSS3]
- font kerning supported (inter-character spacing between specific pairs)
- letter-spacing and word-spacing supported [CSS3]
```

```
- colors supported as rgb(), rgba(), hsl(), hsla(), cmyk(), cmyka(), or spot()
- spot colors supported e.g PANTONE 310 EC
- PDF/X compatible files
- optionally force use of grayscale, RGB or CMYK colorspace
- automatic colour conversion for most objects between grayscale, RGB and CMYK

Backwards compatibility
-----------------------
Most changes in mPDF 5.1 are backwards compatible with version 5.0 i.e. your documents should
look the same running 5.1   However some changes may alter display from previous versions:
- RTL (right-to-left) languages - see below
- bleed margins when using @page CSS - see below
- Default distance for "cross" from inner margin changed 10->5mm [hardcoded in fn. Footer()]
- If height set on a block element, will force a new page if set-height will not fit on page
- If table rotated, 5mm margin at bottom is now reduced to 1mm
- If image is too big for page and automatically sixed to maximum height of page, 10mm margin at
bottom reduced to 1mm

Colours may appear more vibrant
-------------------------------
Unless specifically set, Adobe Reader uses the RGB colorSpace by default when displaying documents.
However
if an image or gradient using transparency (or alpha channel) is included in the document, Adobe
Reader
automatically sets the default colorSpace to CMYK - which makes the colours look less vibrant/bright
on screen.
mPDF 5.1 now specifies by default a colorSpace RGB for each page, and this will maintain the more
vibrant colours. This is overridden if you use on of the options to restrict the colorSpace (cf.)

RTL
---
**** IMPORTANT - PLEASE READ IF USING RTL SCRIPTS ****
Handling of RTL (right-to-left) languages has been significantly rewritten, and is likely to cause
changes to the resulting files if you have previously been using mPDF. The changes have made mPDF
act more like a browser, respecting the HTML/CSS rules.
Changes include:
- the document now has a baseline direction; this determines the
      - behaviour of blocks for which text-align has not been specifically set
      - layout of mirrored page-margins, columns, ToC and Indexes, headers and footers
      - base direction can be set by any of:
            - $mpdf->SetDirectionality('rtl');
            - <html dir="rtl" or style="direction: rtl;">
            - <body dir="rtl" or style="direction: rtl;">
      - base direction is an inherited CSS property, so will affect all content, unless...
- direction can be set for all HTML block elements e.g. <DIV><P><TABLE><UL> etc using
      - CSS property < style="direction: rtl;">
      - direction can only be set on the top-level element of nested lists
      - direction can only be set on <TABLE>, NOT on THEAD, TBODY, TD etc.
      - nested tables CAN have different directions
- NOTE that block/table margins/paddings are NOT reversed by direction
      NB mPDF <5.1 reversed the margins/paddings for blocks when RTL set.
- language (either CSS "lang", using Autofont, or through initial set-up e.g. $mpdf = new mPDF('ar') )
      no longer affects direction in any way.
      NB config_cp.php has been changed as a result; any values of "dir" set here are now ineffective
- default text-align is now as per CSS spec: "a nameless value which is dependent on direction"
      NB default text-align removed in default stylesheet in config.php
- once text-align is specified, it is respected and inherited
      NB mPDF <5.1 reversed the text-align property for all blocks when RTL set.
- the configurable value $rtlcss is depracated, as it is no longer required
- improved algorithm for dtermining text direction
      - english word blocks are handled in text reversal as one block i.e. dir="rtl"
      [arabic text] this will not be reversed [arabic text]
      - arabic numerals 0-9 handled correctly

Although the control of direction for block elements is now more configurable, the control of
text direction (RTL arabic characters) remains fully automatic and unconfigurable.
<BDO> etc has no effect. Enclosing text in silent tags can sometimes help e.g.
      content<span>[arabic text]</span>content

Justified text
```

```
--------------
Text-align: justify - no longer uses configurable variable $jSpacing= C | W | ''
The default value is for mixed letter- and word-spacing, set by jSWord and jSmaxChar
If a line contains a cursive script (RTL or Indic [devanagari, punjabi, bengali]) then it prevents
letter-spacing
for justification on that line - effectively the same as setting letter-spacing:0
Spacing values have been removed from the config_cp.php configuration file, so the "lang" property
(in config_cp) no longer determines justification behaviour (this includes the use of Autofont()).
When using RTL or Indic [devanagari, punjabi, bengali] scripts, you should set CSS letter-spacing:0
whenever you use text-align:justify.


@page media
-----------
When using @page to create a print publication with page-size less than sheet-size
- bleed margin is now configurable (also crop- and cross-mark margins)
- backgrounds/gradients/images now use the bleed box as their "container box"
- odd-header-name: supports the value "_default" - allows current non-HTML header to remain unchanged
- marks: crop cross; i.e. both together supported
- background-image-opacity and background-image-resize now work with @page CSS


SVG images - extended support
-----------------------------
- support for spreadMethod property for gradients (repeat and reflect)
- support for style="font-family; font-size; font-style; font-weight" i.e. inline CSS
- when viewPort="" and width="" height="" all specified, uses width to set SVG size of a "pixel"
- support for opacity and multiple "stops" (and colorspace) in gradients



Minor Enhancements
------------------
- support for colors as rgb(87%, 56%, 25%) [used especially in SVG]
- added option of "NoPrintScaling" in SetDisplayPreferences
- compress.php - now combines BACKGROUND-IMAGES and GRADIENTS as BACKGROUNDS, and added PROGRESS-BAR
- table with THEAD row will force a new page if no room for the THEAD AND a row from TBODY
- Small-Caps now works properly together with text-align justify
- embedded font subsets restructured (minor) for greater compatibility e.g. with Postscript printers
- PDF/A will convert everything except grayscale to RGB (by default) or CMYK (optionally)




Bug fixes
---------
- Display changed to CMYK colour gamut when document contained an object with transparency set.
      Now will retain RGB colorspace (brighter colours)
- If using dir="rtl", tables containing nested tables were not properly reversed
- "text-rotate: 0" set in CSS stylesheet did not 'undo' any text-rotate set on the row (TR)
- Malayalam - character re-ordering
- If height set on a block element, was not taking account of padding top/bottom
- embedded font subsets: error in array of Font Widths fixed
- <style>..</style> containing /* import url() */ the comments were not ignored
- If call mPDF class more than once, error using multiple barcodes or gif files because classes not
reinstantiated
- Floating blocks were collapsing bottom/top margins - incorrectly
- Table: if colspan>1 contents are wider than the width of the included columns, did not increase
column width(s) to accommodate
- Resizing table - script hanging and new page forced when not required (still)
- If a table style="page-break-inside:avoid" not fit on the page, was adding new page before resizing
EVEN IF on a blank page
- End of 2 blocks (e.g. </div></div>) at very bottom of page, forcing unwanted pagebreak
- Corrected handling of tags inside <pre>
- RTL left-aligned text - line ending with <br /> not correctly left-aligned
- <input type=submit|reset etc name="xxx" e.g. Google button showed as I&039;m feeling lucky
- Annotations all linked to Page 1 (parent object)
- Error "division by zero" using columns
- MultiCell() and Write() [direct writing functions] - miscalculating length of line in non-core fonts
(+ other bugs)
```

```
- error if CJK space at end or beginning of line with 0x20 spaces in as well

Configurable variables (see config.php file):
---------------------
$this->printers_info
$this->bleedMargin
$this->crossMarkMargin
$this->cropMarkMargin
$this->cropMarkLength
$this->nonPrintMargin
$this->restrictColorSpace
$this->PDFX
$this->PDFXauto;
$this->useKerning
[$this->rtlcss removed]

Updated files
-------------
mpdf.php
config.php
config_cp.php (removed references to dir - but not essential to update - just redundant information)
compress.php
includes/out.php
includes/functions.php
classes/svg.php
classes/ttfontsuni.php
classes/indic.php
/font/helvetica*.php and /times*.php

Added CSS support
=================
All Block elements including <BODY> <TABLE> <TR>
-----------------------------------------------
background-image-resolution: normal | [ from-image || <dpi> ]
direction: [ rtl | ltr ]      (HTML attribute dir also supported)
background: [ gradients ]
background-image: [gradients ]

For [ gradients ] syntax see:
- Mozilla linear - https://developer.mozilla.org/en/CSS/-moz-linear-gradient
- Mozilla radial - https://developer.mozilla.org/en/CSS/-moz-radial-gradient
- Mozilla gradients use - https://developer.mozilla.org/en/Using_gradients
- CSS3 linear gradients - http://dev.w3.org/csswg/css3-images/#linear-gradients
- CSS3 radial gradients - http://dev.w3.org/csswg/css3-images/#radial-gradients


Almost all elements - block and in-line
---------------------------------------
font-kerning: auto | normal | none  // need to set $mpdf->useKerning = true;
letter-spacing: normal | <length>
word-spacing: normal | <length>

Colours
-------
Anywhere that color is specified (e.g. color, background-color, borders)
- rgb(255,255,255)
- rgba(255,255,255,1)         // last value is transparency (alpha) - between 0-1
- rgb(100%,100%,100%)
- hsl(360,100%,100%)          // H: 0-360; S/L: 0-100%; a:0-1
- hsla(360,100%,100%,1)
- cmyk(100,100,100,100)       // or 0-100%
- spot(COLOR NAME, 100%)      // e.g PANTONE 310 EC; use AddSpotColor() to define first

<TR>
border:

<TABLE> <TR>
background:
background-color:
background-image:
```

```
<IMG>
gradient-mask: [can use any of the gradient syntax]
image-orientation: <angle>                      - supports deg, rad or grad
image-resolution: normal | [ from-image || <dpi> ]

<OL|UL>
list-style: arabic-indic | bengali | devanagari | gujarati | gurmukhi | kannada | malayalam | oriya |
            persian | telugu | thai | urdu | tamil


@page
marks: [ crop || cross ]            - i.e. crop and cross can be used together
odd-header-name: "_default"           - allows current non-HTML header to remain unchanged
background-image-opacity: [ 0-1 ]
background-image-resize: [ 1-6 ]    - see Manual


============================
mPDF v5.0   (30/09/2010)
============================

New Features
------------
- Font handling simplified, reads TrueType font files directly


Minor Enhancements
------------------
- rotation of fixed-position block elements (see example 10 and manual for supported CSS)
- support for CSS Small-Caps font-variant added
- utility scripts in /utils/ folder to help font management
- new simplified functions AddPageByArray() and TOCPageBreakByArray() added
- progress bar simplified and customisable
- improved word-wrapping for CJK langauges
- improved recognition of CJK/Indic/Arabic characters
- invalid UTF-8 input now outputs a meaningful error by displaying input html with errors marked
- GIF or PNG images with transparency/interlaced/non-standard compression handled as internal data
      if /tmp/ folder is not present or writeable
- support for <html dir="rtl">
- support for "display: none" on inline elements
- annotations supported in fixed-position block elements


Bug fixes
---------
- <br /> preceded by space does not correctly text-align to right
- zero-width character in middle of line caused line-break (e.g. diacritic or U+200C = ZWNJ)
- HTML attributes not recognised if spaces e.g. 'src = "..."'
- Headers changed for output - problem reported on IE8 64-bit using SSL
- using SetAutoPageBreak(false) used caused unexpected behaviour with table rows at page break
- (from Beta) incorrect check for temporary font data folder causing errors
- artificial Bold/Italic not working in table cell when using rotated text
- allow <dottab> to inherit font color correctly
- SVG now works with Adobe 7
- background in header overwriting text
- vertical text in table header not correctly horizontally positioned when repeated
- compatibility with PHP >= 4.3 (htmlspecialchars_decode, stripos)
- updated depracated script PHP 5.3.0 ($string{1} to $string[1], $var =& new Object(),
set_magic_quotes_runtime)
- index (CreateIndex) number string incorrect if arabic(rtl) text anywhere in document
- MultiCell incorrectly calculate string length/width when using core fonts
- page-break-inside:avoid - used with non-HTML footer had space inserted for footer height
- page-break-inside:avoid - error if more than 1 page height but not enough to trigger second
pagebreak
- page-break-inside:avoid - incorrectly layering page backgrounds (headers and content brought forward)


Changes from 5.0 Beta
---------------------
If you are upgrading from the Beta version - you MUST delete all files in the  /ttfontdata/ temporary
```

```
directory
- config.php file has been changed (extra CJK characters to recognise CJK blocks)
- $this->backupSubsFont (in config_fonts.php) optionally now takes an array
- no need to define 'cjk'=>true or 'sip|smp'=>true in config_fonts.php (ignored; cf. $this->BMPonly)
- Indic language fonts have been altered to add Latin and Latin-1 Supplement characters
- progress bars now has an external progbar.css and configurable main heading
- added initial parameter new mPDF('+aCJK') or '-aCJK' to override default useAdobeCJK at runtime
- QRCode is not included in main download (but as an extra package)

BACKWARD COMPATIBILITY
----------------------
If you have been using earlier versions of mPDF, most scripts should work as before. But note:
- Arial, Helvetica, Times and Courier are now treated like any other font
- the whole CSS font string is parsed e.g. style="font-family:'Lucida Grande';" will look for a font
'lucidagrande'
and not 'lucida'

Configurable variables (see config.php file):
---------------------
- $mpdf->useSubstitutionsMB is now depracated, but will work as an alias for $mpdf->useSubstitutions
The initial parameters e.g. new mPDF('utf-8') have all changed. Old ones may be recognised, or will be
ignored.
- $mpdf->useOnlyCoreFonts is now depracated and is ignored. Use new mPDF('c')
- $this->use_CJK_only is now depracated and is ignored. See $this->useAdobeCJK and new mPDF('+aCJK')
or '-aCJK'
Control SmallCaps appearance
- $mpdf->smCapsScale = 0.75;     // Factor of 1 to scale capital letters
- $mpdf->smCapsStretch = 115;    // % to stretch small caps horizontally
Customisable Progress bar
- $mpdf->progbar_heading = 'mPDF file progress';
- $mpdf->progbar_altHTML = '';
Control fonts/subsetting
- $mpdf->maxTTFFilesize = 2000;
- $mpdf->percentSubset = 30;
- $mpdf->debugfonts              // show font errors and warnings
Replaceable alias
- $mpdf->iterationCounter = false;     // Allow use of {iteration varname} in THEAD


============================
mPDF v5.0Beta   (21/07/2010)
============================

New features
------------
The main change in mPDF v5 is the handling of TTF and TTC fonts directly.
See README.txt and FONT INFO.txt for more information


QR-code (2-dimensional barcode) Added
-------------------------------------
type="QR"
Size=1 is an arbitrary 25mm widthxheight. error="L|M|H|Q"
text="" can be numeric, alphanumeric or binary(?)
Required whitespace is always included around it


Enhancements
------------
- progress-bar is simplified (no javascript class)
- dir="rtl" supported in <html> or <body> tag

Bug fixes
---------
- artificial Bold/Italic now working in table cells with rotated text
- "-" is now allowed in a font name e.g. sun-exta
- <dottab> now inherits font color correctly
- SVG class bugs fixed (was crashing in Adobe Reader v 7)
- background color/image in header no longer overwrites the header text
```

```
Changed Config variables
------------------------
$this->useSubstitutionsMB is depracated
Character substitution always occurs when using core fonts.
Use $this->useSubstitutions for all cases.


New Configurable variables
--------------------------
$this->useAdobeCJK = true;       // Uses Adobe CJK fonts for CJK languages
                  // default TRUE; only set false if you have defined some available fonts that
support CJK
                  // If true this will not stop other CJK fonts if specified by font-family:
                  // and vice versa i.e. only dictates behaviour when specified by lang="" incl.
AutoFont()

// Set maximum size of TTF font file to allow non-subsets - in kB
// Used to avoid e.g. Arial Unicode MS (perhaps used for substituteCharsMB) to ever be fully embedded
// NB Free serif is 1.5MB, most files are <= 600kB (most 200-400KB)
$this->maxTTFFilesize = 2000;

// If not -s (i.e. forced subset) this value determines whether to subset or not
// 0 - 100 = percent characters
// i.e. if ==40, mPDF will embed whole font if >40% characters in that font
// or embed subset if <40% characters
// 0 will force whole file to be embedded
// 100 will force always to subset
$this->percentSubset = 30;

$this->debugfonts - show errors and warnings for font parsing

Config variables removed
------------------------
$this->use_CJK_only
$this->useOnlyCoreFonts

================================================================================

====
4.6
====

mPDF

files changed:
mpdf.php
config.php
makefonts/makefonts.php
class/t1asm.php
class/svg.php
graph.php

examples_04 (images)

config var added:
$this->tableMinSizePriority

4.5.015
Bug fix:
Complex page with ToC entries ++ (example_ToC_bug4_5_015.php) caused Apache to crash
AdjustHTML() preg_pattern for matching <hx>... </hx>  <table for keep-together - altered and fixed ?
matching
Seemed to crash when content="Graph 12" between the <h> - 2 numbers (12) crash, 1 didn't!!!


4.5.014
Bug fix:
Using TrueType fonts, unused font is not embedded in the PDF doc. This was fine except an error
message appeared after printing in Adobe Reader,
because Font reference /F1 still present in doc pointing to non-existent resource.
```

```
Edited so that the reference is now removed from the page if font unused.


4.5.013
Enhancement
TrueTypeUnicode fonts width array inserted as shortened form array (smaller file size)

4.5.012
Bug fix: Incorrect handling orphan characters in table
(cf. http://mpdf.bpm1.com/forum/comments.php?DiscussionID=193 fixed in 4.2 - but going back to it
still problems)
If xxxxx. fits but xxxxx.. doesn't: WriteFlowingBlock wraps it to next line, TableWordWrap sqeezed it
onto one line
TableWordWrap fixed to only allow one orphan char. even if it fits with that one.


4.5.011
Added Windows BMP image support

4.5.010
SVG class:
- improved recognition of lineargradients/radialgradients referenced by xlink:href
- does not die if empty text string
- support for many text properties as style="" as well as currently as attributes (bold, fill etc)
- if using MB font, was respecting "Times" and "Courier" from the SVG file but using as ANSI not utf-8

4.5.009
graph.php updated to include SVG - need to define in graph.php (as well as set up TTF fonts)
(SVG graph does not include CSIM, 3D skew.)

4.5.008
t1asm.php has an error in the error message if .dat fontfile not found (".char.dat")

4.5.007
Bug fix: Using page-break-inside:avoid, if nothing would have been printed on page 1 before next page,
elements going all over the place!
      Also problem shifting images - fixed
      Also wasn't shifting WMF/SVG images - fixed

4.5.006
New config var
$this->tableMinSizePriority = false;
If page-break-inside:avoid but cannot fit on full page without
exceeding autosize; setting this value to true will force respsect for
autosize, and disable the page-break-inside:avoid
[NB edit Manual Table>>autolayout algorithm]


4.5.005
Bug fix
Table set to avoid page-break-inside: in some circumstances entered loop with recalculating size
Fudge factor added of 0.001 in tbsqrt to calculate shrink factor

4.5.004
Bug fix
If table set to avoid page-break-inside and table height (resized) exactly==remaining page - was
triggering page break
Fudge factor added of 0.001 in tablewrite to query pagebreak

4.5.003
Bug fix in makefonts/makefonts.php
Also changed the links in Step4 & 8 which move the newly created files to the font directory - will
now show error message if error -
will NOT overwrite existing files. (Put in manual already)

4.5.002
Bug fix in class/t1asm.php
If you have magic_quotes_runtime set On - problems using embedded subset.

4.5.001
```

```
JPG "Exif" file recognised from header, and handled much more quickly and efficiently (not using GD)



==========================
mPDF v4.5   (21/04/2010)
==========================

New Features
------------
The main change in 4.5 is the improved class for importing SVG images. (See details below)

Font files
----------
Some bugs in the "makefonts" utility caused some errors in the files produced for embedding font
subsets.
Surprisingly these are not easily detectable (I have yet to find one!).
All the font files used for embedding font subsets (the .dat and .dat.php files in /unifont/ folder)
have been re-generated. Download them if you are having problems with any fonts - otherwise, you
probably
don't need to bother.

Minor Enhancements
------------------
If keepColumns = true (i.e. disable readjustment of column length), mPDF will now reproduce
table header/footer rows in each column [4.4.015]

A number of changes to improve processing time [4.4.012]
[Thanks to carlholmberg http://mpdf.bpm1.com/forum/comments.php?DiscussionID=274&page=1#Item_3]

JPG files with header marked as "progressive DCT-based JPEG" are now supported [4.4.004]

Configurable variable (config.php) $dpi can be set to vary size interpreted from "px" values in
HTML/CSS
NB Recommended that $dpi should always be set the same as $img_dpi

Support added for "ex" as a size value (approximates "ex" as half of font height)

Configurable variable (config.php) $watermarkImgAlphaBlend will determine how watermark images
will blend with underlying objects.


Bug fixes
---------
- Make-fonts utility : makefonts/makefonts.php [4.4.016]
      (All font files have been updated)
- Table header of only one column width - not printing right border [4.4.014]
- WMF and SVG images not rotating correctly to 90 or -90 degrees [4.4.013]
- Using templates, error if imported doc contains templates itself [4.4.001]


Updated Files
-------------
mpdf.php
config.php
classes/svg.php
makefonts/makefonts.php
ALL subset font files (/unifont/ .dat and .dat.php files), and all garuda and norasi files

New files
---------
None

New config variables
--------------------
$this->watermarkImgAlphaBlend
$this->dpi

BACKWARD COMPATIBILITY
----------------------
```

```
All but one changes in mPDF 4.5 are fully backwards compatible.
The configurable variable $this->watermarkImgBehind was introduced in v4.4 and was unintentionally set
to TRUE
In v4.5 this is set to FALSE in the config.php file.


SVG Images
----------
[svg.php CHANGED]
- Text stroke-width default changed to 1 [4.4.011]
- Text stroke - line-join type changed [4.4.010]
- Default value for fill changed to "black" [4.4.008]
- Bug fixes:
  * to correct calculation of text-length (and therefore alignment R and C) [4.4.009]
  * Corrected errors in path implementation esp. quadratic Bezier curves
  * rounded corners to rectangles - error corrected
  * Recognition of font-family improved
  * remove \n (and other non-printable chars) from text
  * zero length shapes are not output e.g. zero-width rectangle, zero-length line, zero-radius circle
- Support added for:
  * gradient stop offsets and gradientUnits="userSpaceOnUse" [4.4.007]
      In mpdf.php enabled define inner radius for radial gradients - only used internally by SVG at
present
  * user defined <ENTITY /> cf. 'render-elems-03-t.svg' in SVG Test Suite [4.4.006]
  * "color" attribute and "currentColor" value for fill and stroke [4.4.005]
  * fill:url(#...) in a style as well as attribute
  * xlink:href for gradients
  * 1.3002e-005 in svg path
  * text-style changes (e.g. text-anchor) set on <g> element - not just on <text>
  * fill-rule=evenodd|nozero
  * dashed lines / stroke-dasharray & stroke-dashoffset
  * gradientUnits=userSpaceOnUse;
  * units e.g. 3mm or 14pt in Rectangle, Circle, Ellipse, Line and Text position
  * transform on <text> element
  * stroke as well as fill on text

NB The following are still NOT supported for SVG
- filters
- <marker>
- images
- DOM
- <pattern>
- textlength; lengthadjust; tspan, tref, toap, textPath;
- <use ../>
- gradient on stroke/text;
- <clipPath>
- text-underline and strikethrough
- text opacity
- colors as rgb(87%, 56%, 25%)
- rect using units for dimensions
- Only uses default spreadMethod = "pad" for gradients




============================
mPDF v4.4   (24/03/2010)
============================

New Features
------------
- Support SVG image files (partial)
- Rotate images or graphs (by multiples of 90 degrees)
- Set opacity (transparency) for background images
- Control resizing of background images
- Set whether to print watermark images behind or in front of page contents
- Reduced memory usage when printing tables (partly configurable)
- Option to set path to folder for temporary files
- Improved compliance for CSS text-align justify
```

```
- Increased support for CSS "media"
- Improved performance when accessing local image files


Minor Enhancements
------------------
- Allows space in output file name e.g. $mpdf->Output('t est.pdf','D'); [4.3.007B]
- Header changed in Output to improve compatability with IE6 (affects 'D' and 'I') [4.3.012B]
- background-images do not show noimage.jpg if missing [4.3.012D]
- simpleTables (which improves performance) now also allows: background-color, -gradient and -image,
padding
      and rotated text to be set for each cell. Only borders are not supported cell-by-cell. [4.3.006]


Bug fixes
---------
- Page width not correctly reset when defining default page margins (L/R) by @page [4.3.007C]
- Table row <TR> with a background-color, paints the whole row, including the spaces between cells
[4.3.005]
      NB This should have been fixed in [4.2.028] but got left out!
- UseSubstitutionsMB causes errors inside <textarea> and <select> so now disabled in these 2
situations [4.3.004]
- CSS background: 'none' did not cancel background-image/background-color if it comes later [4.3.002,
4.3.011]
- Warning message 'depracated' (as of PHP 5.3) when using Templates [4.3.007]
- AutoFont incorrectly altering multibyte characters ending in \xa0 [4.3.012C]
- "Initial" default value for border-width changed from 1px to 'medium' e.g. border-top: solid #000000;
[4.3.010]
- WMF image sometimes inverted [4.3.016]

Updated Files
-------------
mpdf.php
config.php
changelog.txt


New files
---------
classes/svg.php


New config variables
--------------------
$this->justifyB4br=false;
$this->CSSselectMedia='print';
$this->watermarkImgBehind = false;

BACKWARD COMPATIBILITY
----------------------
All changes are backwards compatible except the handling of some background-images - please see notes
below.


Watermark Image z-order
-----------------------
By default mPDF prints watermarks on top of the page contents to ensure that they are not hidden by
backgrounds
(especially table cells).
You can specify watermark images to be printed behind page contents by setting a configurable variable:
$this->watermarkImgBehind = true;  // default=false
[4.3.018]


Rotating Images and Graphs
--------------------------
Images or graphs can be rotated (by multiples of 90 degrees) using a custom HTML attribute e.g.
<img rotate="90|-90|180" ... />
<jpgraph rotate="90" ... />
Valid options are: 90|-90|180.
```

```
Positive values are clockwise.
If width is specified e.g. width="3cm" this is applied to the rotated image i.e. will be width 3cm
after rotating
[4.3.016]


Background Image Opacity
------------------------
A custom CSS property "background-image-opacity": is now supported on BODY, DIV+ (block elements) and
TD
Takes values between 0 and 1.0


Resizing Background Images
--------------------------
A custom CSS property "background-image-resize": is now supported on BODY, DIV+ (block elements) and
TD
0 - No resizing (default)
1 - Shrink-to-fit w (keep aspect ratio)
2 - Shrink-to-fit h (keep aspect ratio)
3 - Shrink-to-fit w and/or h (keep aspect ratio)
4 - Resize-to-fit w (keep aspect ratio)
5 - Resize-to-fit h (keep aspect ratio)
6 - Resize-to-fit w and h

N.B. Prior to v4.4 background-images were incorrectly constrained to maximum width of the containing
block.
The default is now to do NO resizing on background-images. Setting "background-image-resize:3" should
be used
for backwards compatibility.
[4.3.015, 4.3.012D]


SVG Image files
---------------
SVG image files are now partially supported (but as for WMF - not as background-images).
viewBox (preserveAspectRatio is not supported)  viewBox="0 0 400 200"  width="400" height="200"
Takes viewBox in preference to width/height if present on <svg>
If neither present, will size to width of page (square) as the containing box.
Units are interpreted as pixels if undefined.
Doesn't recognise internal CSS <style> elements
Gradients only take 2 colours which are taken as stop-offset 0% and 100%
[4.3.013 & 4.3.017]


Reduced Memory Usage printing Tables
------------------------------------
mPDF uses a lot of memory when processing large tables. Parts of the script have been rewritten to
reduce memory consumption when writing tables which use collapsed borders (10-25% saving).

Memory usage can be reduced further by setting a configurable variable:
$this->packTableData = true;  // default=false
but note that this causes a significant increase in processing time.
[4.3.008, 4.3.019, 4.3.014]



User-defined path to Temporary folder
-------------------------------------
mPDF uses a folder to write and store temporary files when processing images. By default this is the
[your_path_to_mpdf]/tmp/
This is now user-definable by defining the constant _MPDF_TEMP_PATH before including mpdf.php script.


Text Justification
------------------
In a justified text block, an inline image, textarea, input, or select causing a new line will now
force
the previous line to be justified. HR and BR do NOT force justification (as in browsers).
For optional compliance of MS Word behaviour, there is a new configurable variable:
```

```
$this->justifyB4br = false;      // Change to true to force justification before a <BR> (as in MS Word)
[4.3.003]


CSS support for @media
----------------------
Now supports media-dependent CSS styles e.g.
@media print {
      p { color: red; }
}
as well as
<style media="...">...</style> and
<link rel="stylesheet" media="print" href="..." />
Proper matching of CSS media to select using configurable variable:
$this->CSSselectMedia='print';   //  default="print" set in config.php : screen, print, or any other
CSS @media type (not "all")
N.B. $this->disablePrintCSS in now depracated
[4.3.001]




============================
mPDF v4.3   (28/02/2010)
============================

NEW FEATURES
------------
- Page (sheet) size can be reset within document (http://mpdf1.com/manual/index.php?tid=436) [4.2.024,
4.2.025]
- PDF/A1-b compliant files (http://mpdf1.com/manual/index.php?tid=420)
- Improve performance using simpleTables (http://mpdf1.com/manual/index.php?tid=430)
- mPDFI incorporated into main mPDF class (http://mpdf1.com/manual/index.php?tid=432)
- <dottab> added as custom HTML tag: inserts dots to the following text, which is right-aligned
[4.2.031]

See Example files 38 and 39 for PDFA compliant file and <dottab>

BACKWARD COMPATIBILITY
----------------------
All changes are backwards compatible except the use of mPDFI. You will need to make minor changes to
your scripts.
See the manual http://mpdf1.com/manual/index.php?tid=432 for details.

BUG FIXES
---------
- When using Table of Contents and not resetting page numbers: HTML headers/footers showed incorrect
page number [4.2.020]
- Table of Contents: last page not printing page background-color [4.2.023]
- Image file with space " " in the file name failing [4.2.016]
- Image file path unnecessarily resolved to full URI - changed to use relative path if possible
[4.2.029] ***
- Table - not calculating height of cell correctly [4.2.015, 4.2.012, 4.2.011, 4.2.009]
- Table row breaking after/during cell when image in cell taller than font-height [4.2.008]
- When Table row(cell) greater height than the page-height but requiring resizing greater than allowed
by autosize - not resizing [4.2.005]
- Table cell border not resized correctly [4.2.002]
- Table row <TR> with a background-color, paints the whole row, including the spaces between cells
[4.2.028] ****
- Background-image in HTMLFooter not correctly setting 0,0 origin [4.2.014]
- Background-image set as an in-line style not working [4.2.013]
- Background-image set in CSS @page or <body> was being constrained to less than page size [4.2.032]
- Imported Templates overwriting Headers (with images or gradients) [4.2.004]
- When using imports/templates, HTML header with background-image causing page to disappear [4.2.001]
- block-style element breaking over more than 2 pages incorrectly adjusting L/R margins [4.2.022]
- CSS @page property "size" set on :left :right or :first pseudo-selectors - disabled [4.2.022]
- Annotations default colour incorrectly set in PDF as [100 100 0] corrected to [1 1 0] (seemed to
work ok?) [4.2.026]
- Overwrite() now parses input file more tolerantly recognising more source files [4.2.030]
```

```
**** Bug fix 4.2.028 never got into the release of v4.3  Included in next release [4.3.005]
**** Bug fix 4.2.029 never not fully implmented in v4.3  Included in next release [4.3.012]

Changed files
-------------
mpdf.php
compress.php
config.php
classes/t1asm.php
includes/functions.php
mpdfi/fpdi_pdf_parser.php
Added files/folder: /mpdfi/filters/*.*
Added file/folder: /iccprofiles/sRGB_IEC61966-2-1.icc
mpdfi/mpdfi.php (no longer required)

New Configuration variables
---------------------------
[config.php]
$this->enableImports
$this->simpleTables
$this->PDFA
$this->ICCProfile
$this->PDFAauto


Minor changes
-------------
Increased PDF file compatibility with spec 1.4
- PDF version changed to 1.4
- A binary file marker (a comment line with 4 characters > 127 ASCII) is added just after the first
line
- %%EOF no longer has line break after it [4.2.010]
- /ID object is added to trailer object when not encrypted [4.2.010]

When using progress bars, one of the JS scripts is now referenced as an external file
 to allow it to be cached by user's browser and improve performance for end-user [4.2.007]

Importing external PDF files: LZW encoded PDF files are now supported

When adding an annotation, the popup window can be set be either open or closed when the document is
opened [4.2.027]
- size and position of the popup can also be specified



===========================
mPDF v4.2   (27/01/2010)
===========================

NEW FEATURES
------------
- image handling improved
- table layout - additional control over resizing
- vertical-alignment of images - better support for all CSS types
- top and bottom margins collapse between block elements
- improved support for CSS line-height
- display progress bar whilst generating file
- CSS @page selector can be specified when adding a pagebreak
- CSS @page selector allows different margins, backgrounds, headers/footers on :first :left and :right
pages
- PNG images with alpha channel fully supported
- ability to generate italic and bold font variants from base font file
- CJK fonts to embed as subsets
- "double" border on block elements
- character substitution for missing characters in UTF-8 fonts
- direct passing of dynamically produced image data
- background-gradient and background-image can now co-exist
```

```
Bug fixes
---------
- empty variable (undefined var, false, null, array() etc.) sent to WriteHTML produced error message
"Invalid UTF-8"
- CJK in tables when not using CJK (utf-8-s) autosized very small as characters did not word-wrap
- parsing stylesheets: background image not recognised if containbed uppercase characters in file name
- "double" border on table used white between the lines instead of current background colour
- $this->shrink_tables_to_fit = 0 or false caused fatal errors
- background color or images not printing correctly when breaking across pages
- background not printed for List inside a block element
- columns starting near end of page with no room for a line triggering column change (resulting in
text misplaced) not page break
- table cell not calculating cell height correctly when "orphan" characters (;:,.?! etc.) at end of
line
- table breaking page in column 2 when col 1 is rowspan'ned
- margin-collapse at top of page not working if bookmark/annotation/indexentry/toc
- column break triggered by HR triggering a second column break
- an empty 'position:fixed' element with no/auto width or height caused fatal error
- mPDFI: template documents were overwriting HTML headers
- mPDFI: function Overwrite (to change text in existing PDF) - fatal error if using with encrypted
file

Bug - not fixed
- WriteHTML('',2) with '2' parameter not recognising 'margin-collapse:collapse' for DIVs or
'line-height' set in default CSS 'BODY'



New or Updated Files
--------------------
mpdf.php
compress.php
config.php
config_cp.php
config_fonts.php
mpdf.css
classes/gif.php
classes/indic.php
includes/subs_core.php
mpdfi/mpdfi.php
unifont/ar_k_001.uni2gn.php
All files in new folder: /progress/*.*

NEW FOLDER /tmp/ required with read/write permissions - used for temporary image files or progress
bars




===========================
mPDF v4.1.1  (21/12/2009)
===========================
Error corrected in /makefont/makefonts.php file (moved completed Unicode files to font folder instead
of unifont)

===========================
mPDF v4.1  (20/12/2009)
===========================
MySQL support for embedded font subsets abandoned, and replaced with file-based.


Files no longer required
------------------------
config_db.php
/unifont/RUNME.php
/unifont/*.ufm and /unifont/*.t1a font files

MySQL Database no longer required

Files Updated
```

```
------------
mpdf.php
/classes/t1asm.php
/makefont/makefonts.php

New files
---------
/unifont/*.dat and /unifont/*.dat.php font files


Bug-fixes
---------
- Image - If automatically resizing to fit maximum page size incorrectly subtracted margin-header
- Annotation and textarea in same HTML chunk causes mPDF to crash (preg_replace textarea with /u
modifier in AdjustHTML)
- set_magic_quotes_runtime error ($mgr not $mqr)
- Table align did not reverse when using RTL document

Alteration: Image - if writing Image in fixedpos div position:absolute - to allow Image to be resized
to full page size


============================
mPDF v4.0  (17/12/2009)
============================

Major additions
---------------
- Ability to embed font subsets (creating much smaller files)
- Much improved support for Arabic languages
- Support for Indic languages including consonant conjuncts
- Support for Fixed position block elements
- New utility to help create your own fonts
- PNG alpha channel transparency supported
- New utility to create smaller mpdf script with reduced functionality (less memory)
- Multiple Barcode types supported

*********************************************************************************************
*  For more details see the documentation manual: http://mpdf1.com/manual/index.php?tid=410  *
*********************************************************************************************

Bug fixes (parsing CSS)
-----------------------
- <link  href="" ... was not recognised if > 1 space between words
- #Content p em { font-style:italic; } was applied to "#Content p"
- @import url() embedded in a stylesheet file requires path fixed relative to stylesheet file
- background-image url() embedded in a stylesheet file requires path fixed relative to stylesheet file
- comment tags inside CSS <style> embedded in the HTML were removed
    Now fixed so <style><!-- ... --></style> works; <!-- <style>...</style> --> is removed

Bug fixes (other)
-----------------
- clear (CSS property for floating elements) caused properties for that element to reset to defaults
- width: auto caused collapse of border and padding on L & R of ordinary block elements
- text-indent not inherited correctly (including em and % values)
- named colour "steelblue" corrected RRGGBB hex code
- table cell widths in %: if width of table cells set to >=100%, and not all columns are set
      This was fixed in 3.2 but led to problem where 2 cols: 1) 80% and 2) not set (see Table sizing
test)
      Now fixed again to work for both(?)
- parse PNG error fixed
- bachground-image not correctly positioned in HTMLFooter and HTMLHeader (Not fixed properly in 3.2!)
- fonts not supported with 0-9 in the name
- font list in GetCodepage() in htmltoolkit.php (now config_cp.php) containing space " " not
recognised
- list number positioning
- list font size set in CSS for UL/OL not working for first level list
- table width (real value, not %) not working in nested table
- GIF file failed if PDF file not compressed
- list-style-type incorrectly inherited
```

```
- line-height inheritance in lists
- SetColumns added a new line - not required if at start of document/page
- footer_line_spacing did not work
- table cellPadding="" overwrote cell padding set on cell CSS
- could not turn off Default non-HTML foter LINE
- border specified as "em"
- default values set in mpdf.css overriden by inherited properties e.g. <div><h1>Here</h1></div> lost
font-size for H1



==========================
mPDF v3.2  (25/10/2009)
==========================
Bug fixes
---------
- Table cell widths in %: if width of table cells set to >=100%, and not all columns are set -> froze,
because tries to produce a column of no width
- Ouput download file changed to allow compatability with IE6
(http://mpdf.bpm1.com/forum/comments.php?DiscussionID=120&page=1#Item_4)
- Image error if relative path used on domain root (e.g. img src="image.png" and basepath is
http://www.yourdomain.com) [attempted fix in 3.1 not working]
- Table: if font changed in cell, font was not retoring properly afterwards causing errors
(restoreInlineProperties())
- Lists: list items containing <br />, font not restoring after bullet
- Graceful support for block elements inside list items e.g. <li><p>... (not supported, but tolerated)
- Index: Created dividing letters separately for Uppercase and lowercase
- Incorrectly changing input character set when encountering e.g. charset=iso-8859-1 in the text of
the document
      - Changed so only detects it if within <head>...</head>
- If Keep-with-table (i.e. H1-6 before table and use_kwt true), if pagebreak forced anyway, borders
did not print on previous page
- Background-image used in HTML footer not appearing (correctly)
- RTL tables: nested tables will not automatically transpose L->R
- "Keep heading with table" - changed to allow <h1 style=".."> not just <h1>
- "Keep heading with table" - backgrounds (bgcolor, image or gradient) incorrectly handled - now
removed
- Rotated table spread over more than 1 page caused enclosing block background colours to be be
rotated along with table
- CSS text-indent % now correctly suported (% of containing block width)
- CSS width em on a block element e.g. DIV now correctly suported
- calculating _tableheight, if remainingpage==0, get error (div by zero)
- Table moved to next page with page-break-inside=avoid, produced an enlarged table (font)
- RTL text-align override on BODY text was not working consistently
- Arab characters: Character &#x647; (HEH) appearing in Final presentation form instead of Isolated
- Vertical position of background-image on whole page incorrect
- SetProtection can now be used with no permissions set (was not working unless at least one
permission set)


Developers
----------
Some more undefined indexes and variables declared (courtesy of DSmart
http://mpdf.bpm1.com/forum/comments.php?DiscussionID=117&page=1#Item_0 )
Comment lines removed for < v3.0 to tidy up code


Enhancements
------------
CSS style height now partially supported on block elements DIV, P, H1 etc. --IF--
      - block is all on one page
      - will extend the block but not shorten it
      - will not force a pagebreak (max. at bottom of page)
      - % is interpreted as % of printable page height (inside margins)
<TFOOT> now supported (placed at start as in HTML spec) displays at end of table, and repeats as a
footer
Background-image and background-gradient now supported in TD and TH (works in all cases except:
background-image is not rotated or
      positioned correctly if table is rotated)
NB Background images and background-gradients do not work if Columns are being used, or if $use_kwt is
```

```
TRUE (keep-with-table),
       or if page-break-inside:avoid is active.


Updated files
-------------
mpdf.php
htmltoolkit.php




===========================
mPDF v3.1  (30/08/2009)
===========================

Bug fixes
---------
- Image error if relative path used on domain root (e.g. img src="image.png" and basepath is
http://www.yourdomain.com
was giving http://www.yourdomain.com//image.png) [3.1]
- Errors in parsing background CSS (background-repeat, background-position etc) [3.1]
- Textarea did not corectly convert width or height in units relating to font e.g. em [3.0beta_01]
- If page margin-bottom set to zero, SetHTMLfooter() crashes with "Division by zero" error [3.0beta_01]
- Table with header row and rowspan in tbody, not calculating maxrowheightcorrectly
- Prevent Index breaking column just after a dividing letter
- Select or input form field when text around it is justified had text in the form field justified
- TocBookMarkText needs to be htmlspecialchar-ed - decoded when entered inside <tocpagebreak>
- <img src="" /> caused crash
- DisplayPreferences used as a variable name and a function: function renamed to
SetDisplayPreferences()
- Image with src file not including a "." incorrectly parsed (e.g.
http://www.domain.com/imagegenerator?params=23)

New Features
------------
- var $debug (true|false) default false; show or hide error reporting at output stage [3.1]
- var $autoPageBreak (true|false) default true; allows overriding of automatic page breaks [3.0beta_02]
- <indexinsert /> HTML equivalent of CreateIndex() [was CreateReference()]
- 2nd attribute/parameter "xref" in IndexEntry() and <indexentry> - works like IndexEntrySee() as
cross-reference entry
- function SetWatermarkText allows null parameters to be passed i.e. SetWatermarkText() - will clear
the WatermarkText
- <watermarktext content="" alpha="" /> - HTML equivalent of SetWatermarkText()
- <watermarkimage src="" alpha="" position="" size="" /> - HTML equivalent of SetWatermarkImage()

Documentation
-------------
See Manual at http://mpdf.bpm1.com/manual/ for more information - especially:
- User's Guide>>What Else Can I Do?>>Backgrounds & Borders
- User's Guide>>What Else Can I Do?>>Floating blocks

Files updated:
-------------
mpdf.php
htmltoolkit.php
graph.php


Developers only
---------------
mPDF<=3.1 generated a large number of warning "Notices" if run with full eror_reporting on, due to
array indexes not being initiated e.g.
$arr = array();
...
if ($arr['index'] == 5 ) {...}

To prevent this, lines were added at the start of the mpdf.php script to turn error notices OFF.
In a move towards making mPDF able to run with full error_reporting on, a large amount of the script
has been altered
```

```
e.g. the line above would be changed to:
if (isset($arr['index'] && $arr['index'] == 5 ) {...}

Although I have tested this with a number of examples, it is almost certainly not complete. Therefore
the error_reporting for Notices is still turned
off in mPDF 3.1
If you care to test it, please uncomment line 43 (//error_reporting(E_ALL);) and report any warning
notices that you get.
NB This has added about 40kB to the script size.



==========================
mPDF v3.0beta  (14/06/2009)
==========================


New Features
------------
- CSS "float" partially supported (as well as clear:left|right|both)
- CSS "background-image" "background-position" "background-repeat" "background-color" "background"
supported for block-level elements
- CSS background-color and background-image for <body > element added: this covers the whole page i.e.
not just inside the "margins"
- CSS background-color and background-image can be defined for CSS @page{}
- Background gradients (linear or radial) can be defined using a custom CSS style property
- Border radius can be defined to give rounded edges to block elements (uses draft CSS3 spec.)
- page number can be reset to any value during the document (in AddPage() <pagebreak> etc.)
- PNG images: Interlaced and alpha-channel-set PNG images now supported
- internal links supported in Indexes (parameter added to CreateIndex()/CreateReference():
$useLinking=true;)
- HTML Headers and footers now support hyperlinks
- improved handling of <br>, block elements, and text lines inside table - approximates better to
browser handling
- borders of block-level elements & table cell borders supported (partially) in columns
- optional error reporting for problems with Images ($showImageErrors)
- ToC will word-wrap long entries
- internal links (Bookmarks, IndexEntry and ToCEntry) rewritten to give more accurate positioning
(when used as <tag>)
- autofont algorithm improved for CJK languages
- define text before and after page numbers ($pagenumPrefix; $pagenumSuffix; $nbpgPrefix;
$nbpgSuffix;)
- Additional color names supported - full list from SVG1.0

Bug fixes
---------
- Column width not resetting after an automatic pagebreak, or after setting HTMLheader
- using AutoFont unnecssarily changed htmlspecialchars to code causing errors
- Lists inside a table - incorrectly calculating table cell height
- CJK - 4-byte utf-8 chars not displaying properly (includes HKCS characters)
- mailto: links incorrectly handled
- TOCpagebreak() - usePaging default clarified: true unless specified as '', 0, '0' or false; (null
->true)
- <tocpagebreak> (as html tag) with no "name" defined, used at start of page, added a further blank
page(s)
- Lists - inaccurate calculation of space required for numbers in certain circumstances
- Generated images (.php) only working if cURL enabled - (fixed, but rquires allow_url_fopen if remote
file)
- flag added to turn off error reporting when buffering used ($allow_output_buffering = false;)
- RTL text in Bookmark, Title, Author, Creator, Keywords, and Subject was reversed - Adobe Reader 9
now correctly handles RTL text ( which Reader 8 did not)
- TOC - if not using ODD/EVEN paging, did not add extra page and messed up
- Rotated table which did not fit on remaining page resized to bigger than default
- HR of width less than 100% - text continued on line after it
- HR alignment not working (fixed so both CSS text-align and margin: 0 0 0 auto etc work)
- HR in table did not correctly re-size when necessary
- characters in symbols/zapfdingbats which in non-utf-8 mode are represented as chr(173) incorrectly
handled as soft-hyphens
      (bug introduced 2.5 with soft-hyphens - affects symbols &#8593; arrow-up and Zapfdingbats &#9313;
encircled 2)
```

```
- Internal links (anchors) - Annotation/Bookmarks etc. incorrectly positioned when page orientation
changed
- ToC - when using multiple ToCs, internal links were not correctly adjusted
- anchor (a name="") used inside a table was incorrectly positioned at the end of table
- Tables: cell height calculated incorrectly when BR used
- Table rotated with "page-break-inside:avoid" not kept on one page
- Table rotated and split over > 1 page - vertical alignment inaccurate
- Headers/Footers (non_html) when no style set caused errors
- Table: breaking page when using rowspan error (line 17142)
- ToC: If no indent defined in HTML tag <tocpagebreak> or defined as 0 gave error

Note
----
In mPDF 3.0 the following sections of code have been significantly rewritten:
- painting of borders and background colours for block-elements
- table of contents
- Index
- vertical justification in columns (uses scaling to stretch vertically)

NB changed htmltoolkit AdjustHTML - does not now remove <br> before </div>
      Warning - may display differently in normal text as well as tables


Files updated:
-------------
mpdf.php
htmltoolkit.php


Developers only
---------------
- Background-color handling in CSS changed so only inherited/cascaded when Columns active or
Keep-block-together
      - otherwise would overwrite background image with inherited color
- all %.2f used in sprintf() changed to %.3f in htmltoolkit.php and mpdf.php to increase accuracy of
div border lines in columns etc.
- variable $use_embeddedfonts_1252 renamed to $useOnlyCoreFonts as more precise: depracated but still
supported.
- this version included quite abit of tidying up/future-proofing some code:
      $var{0} changed to substr($var,0,1) etc.  (due to go in PHP6)
      ereg_ changed to preg_  (depracated in PHP5.3) - (NB mainly in htmltoolkit.php)



============================
mPDF v2.5  (01/05/2009)
============================

New Features
------------
- Automatic Hyphenation added, and support for soft-hyphens
- Encryption works now for CJK language documents
- Improved text justification
- Support for 'generated' images e.g. "../ontheflyimage.php"


Bug fixes
---------
- Tables: cell height did not reduce if font-size used was smaller than table default
- Columns: if setcolumns() to the same number already active - did not print out last bit of previous
columns
- Page-break in the middle of a block caused incorrect margin and padding on next lines until end of
block ($cMargin reset to 0 in AddPage)
- <HR> in table cell was printing in incorrect position (bug introduced in mPDF 2.4)
- Justification
  - if only one word on line, did not respect maximum character spacing
  - last character of line incorrectly had character spacing applied
  - Space at the end of last line of a Right Justify block - e.g. "end. </p>" now correctly ignored
  -   incorrectly treated as a character when justifying text with word/char spacing
  - CJK punctuation (.,) added as 'orphans' to keep at end of line
```

```
- PNG files - was still buggy reading larger PNG files (due to fread)


Files updated:
-------------
mpdf.php
htmltoolkit.php
CJKdata.php
/patterns/.. (new files)


Developers only
---------------
Variables renamed as more accurate or appropriate:
- var $isunicode renamed as $is_MB
- var $usingembeddedfonts renamed as $usingCoreFont
CJK changed to act internally as UTF-8 encoded
- (NB CJK Half-widths not supported from 2.5+ i.e. big5-hw gb-hw)



============================
mPDF v2.4  (23/04/2009)
============================
Files updated
-------------
mpdf.php
htmltoolkit.php
mpdfi/mpdfi.php

New files
---------
graph.php
Graphs - Requires new folder: path_to_mpdf/graph_cache/ (must be writeable)

New features
------------
Annotations improved so they appear as a pop-up
Re-use Document Templates (cf. RestartDocTemplate() in manual)
Limited support for CSS float property on an IMG element allowing text wrapping e.g. <img style="float:
right;"> (cf. Images in manual)
Utility function PreparePreText() allows output of a text file which may include <pre>
Automatic generation of graphs from data in tables (requires integration with JPGraph) (cf. Graphs in
manual)

Other Changes
-------------
IMPORTANT - User rights removed as not working with newer version of Adobe Reader 9 (affects Active
forms and ability for users to modify annotations)
Corrects text alignment when using 44 or 12 in (non-HTML) headers/footers
Sets default timezone if not already set (at top of mpdf.php) to prevent E_STRICT ERROR message
Suppresses E_NOTICE error reporting (at top of mpdf.php)
Error capture in Output() to avoid PDF header being sent when error messages generated
A function str_ireplace added to htmltoolkit to allow PHP4 to function

Bug fixes
---------
WMF images incorrectly positioned when in-line
PNG images > 8kB failed to load - (fix in 2.3 didn't work - fixed properly this time)
Annotations containing a new line (\n) causing an error
Evaluation of <pre> text: "<code>[TAB] " evaluated incorrect number of spaces to follow to align tabs,
because < was calculated as 4 chars (&lt;)



============================
mPDF v2.3  (22/03/2009)
============================

New Features
```

```
------------
- Optionally detect language and when to use special fonts i.e. RTL (arabic), CJK (chinese), Thai (see
SetAutoFont() etc.)
- Supports HTML attribute "lang" in all tags and uses special fonts when required (see $useLang)
- Joins Arabic and Farsi/Persian text into presentation forms
- Import another PDF file and use as templates in your document (see UseTemplate() and mPDFI in the
manual.)
- Replace specified text strings in an existing PDF file (see OverWrite() etc.)
- More than one Table of Contents can be used in a document (see tocpagebreak etc.)
- Restore properties of open HTML block elements after a page break (variable $restoreBlockPagebreaks
or new tag <formfeed>)
- <annotation> <bookmark> <indexentry> <tocentry> can now accept characters <>'"& as htmlentities -
htmlspecialchars(..., ENT_QUOTES)
- <annotation> can now accept "\n" for new line
- support for opacity (CSS3 property) for images
- specify the number of spaces to substitute for TAB when parsing <pre> tags
- greater control over margins and display when changing page orientation during document (see
$forcePortraitMargins and $displayDefaultOrientation)



Bug fixes
---------
Fonts in CSS - Not parsing font-family: Trebuchet MS; correctly as trebuchet
Fonts in CSS - CSS font-family: [unknown]; setting first $available_unifont rather than ignoring
Images - not displaying on IIS platform
Images - .wmf not displaying if (allow_url_fopen) not set
Table borders - in defaultCSS, 'MARGIN-COLLAPSE'=> collapase not quoted therefore not working
Line-break inside table - printing a blank background across page rather than just going down a line
Form fields inside tables - will now resize if the table is autosized (shrunk)
<pre> containing a '<' was changed to '&lt;'
Tabs inside <pre> were all changed to 8 spaces, not the remainder following a string
Header on first page was inset by 1mm left and right ($cMarginL and $cMarginR not set to zero)
Table nested inside a cell with colspan > 1 was incorrectly handled
PNG file crashed (?incorrectly defined PNG file) [adapted _parsepng to account for unexpected]
Table or Cell - if font-size not recognised, mPDF set font-size to zero
Font-sizes - [xx-small|x-small|small|medium|large|x-large|xx-large] were not recognised in tables


===========================
mPDF v2.2.1  (17/02/2009)
===========================
Bug fix - (bug introduced in 2.2)
Table - header row did not return to top of page when repeating across pages.


===========================
mPDF v2.2  (15/02/2009)
===========================
Updated files from mPDF 2.1
mpdf.php
htmltoolkit.php
mpdf.css (new)
===========================
New files from mPDF <2.0 (only required for EAN Barcodes)
font/ocrb.xx (several)
unifont/ocrb.xx (several)
IMPORTANT - you need to make sure the ocrb font is added to the config.php file
 - add 'ocrb' to the end of 3 arrays: $this->available_fonts  $this->available_unifonts  and
$this->mono_fonts
===========================

Summary of changes
- external stylesheet file (mpdf.css) is used to configure default values ($useDefaultCSS2 and
$defaultCSS2 are no longer used)
- special comment tags to hide mPDF tags from browsers: <!--mpdf ...  mpdf-->
- AddColumn() function added (equivalent to <columnbreak>)
- annotations - pop-up messages the reader can move or delete (if you set permissions)
- support for WMF images as well as GIF, JPG, PNG
- watermark image can be set instead of, or as well as text
```

```
- nested tables can include other content
- improved control over table layout
- margin: auto now supported for table and block elements

A number of methods and variables have been renamed or reCapitalised for consistency.
Changes should be backwards comaptible.
All user methods start with a Capital, all user-defined variables start with lowercase.
Affected:
Reference() -> IndexEntry()
CreateReference() -> CreateIndex()
$TopicIsUnvalidated -> $showWatermark
setUnvalidatedText() -> SetWatermarkText()

PHP appears at present to be case-insensitive for function/method names
All the following functions have been renamed in the script with a capital first letter:
setUserRights()
setBasePath()
setAnchor2Bookmark()
setHeader()
setFooter()
defHeaderByName()
defFooterByName()
setHeaderByName()
setFooterByName()
setHTMLHeader()
setHTMLFooter()
defHTMLHeaderByName()
defHTMLFooterByName()
setHTMLHeaderByName()
setHTMLFooterByName()
shaded_box()
writeBarcode()

Variable names changed to lowercase first letter:
(Variables are case-sensitive therefore aliases have been set up)
Anchor2Bookmark
BiDirectional
KeepColumns
AliasNbPg
AliasNbPgGp

=========
Bug fixes
=========
Columns - $keepColumns=true was incorrectly calculating the place to continue printing after 1 and
half columns (of 3)
Table cell height - incorrectly setting table cell height when cell contained a line of text of large
size which wrapped to more than one line
HR in Table cell - if table cell contains only HR (and column otherwise empty), HR was printed outside
cell
HR in Table cell - if table cell ended with a HR, height was one line too much
Table page-break-inside:avoid - caused mPDF into permanent loop in some circumstances
Paging - Total Pages/Group 44 and {nbgp} didn't work in CJK
CSS - Border size thin, medium and thick were only recognised in lowercase
Table-header - rowspan not correctly output in THEAD
Default CSS - table empty-cell:hide changed to show (CSS specification)

===========================
mPDF v2.1  (24/01/2009)
===========================

New Features in Version 2.1
---------------------------
- CSS support improved generally (especially for cascading CSS, lists)
- TableHeader changed to allow multiple rows in THEAD


CSS changes
-----------
- display: none (block elements only - not lists or tables, nor HR)
```

```
- width (TD/TH)
- list-style-type (will also recognise the list-style-type from list-style) (OL/UL)
      recognised values:
disc|circle|square|decimal|lower-roman|upper-roman|lower-latin|upper-latin|lower-alpha|upper-alpha|non
e
- CSS support for <LI>: font-family, font-size, font-style, font-weight, color, background-color,
text-decoration, text-transform, and list-style-type (will also recognise the list-style-type from
list-style)
- table cell borders - CSS rules have been adapted slightly - if a coloured/black line conflicts with
a white line, and is the same width, coloured/black will overwrite even if Bottom or Right


Numbered Lists
--------------
Variables set at the top of mpdf.php can be set to change:
- text alignment of numbers in numbered lists (default Right)
      var $list_align_style = 'R';
- content to follow a numbered list marker e.g. '.' gives 1. or IV. whereas ')' gives 1) or a)
      var $list_number_suffix = '.';
(These can be altered at run time, but are not changeable through stylesheets or in-line style)


Writing broken segments of HTML
-------------------------------
2 new parameters have been added to WriteHTML()
function WriteHTML($html,$sub=0,$init=true,$close=true) {
$close - Leaves buffers/variables etc. in current state, so that it can continue to write the HTML
where it leaves off
$init - Clears and resets buffers/variables
(N.B.  You must end with a WriteHTML that calls $close=true)
Example:
$mpdf->WriteHTML('<p>This is the beginning...', 2, true, false);
$mpdf->WriteHTML('...this is the middle...', 2, false, false);
$mpdf->WriteHTML('...and this is the end</p>', 2, false, true);


Rotated text in table cells
---------------------------
NB This UPDATE will change expected output from previous versions******

Prior to v2.1 any cell set to rotate text anticlockwise was forced to vertical align = bottom.
This has been changed so that it only overrides when the rotate angle is between 45 and 89 degrees:
text rotated exactly 90 degrees will respect the set value for vertical-align.


=========
Bug fixes
=========
- List - list starting after "<div>Then some text not in a block element<ol>" incorrectly output
- Tables - if cell font-size set smaller than default for the table, does not shrink the cell height
- Columns (tables) - columns breaking across rows e.g. in the middle of a table cell
- Tables - if table width set to e.g. 100% but cols are less, was not making up to set width
- Watermark - was not printing if using HTMLFooter
- Lists - not aligning numbering correctly if different font sizes used for bullet & text etc.
- Lists - indent of text did not correctly allow for Maximum number in <ol> list
- Table does not always move correctly to a new page
- Table cell incorrectly calculated height causing text to overflow cell when printed
- Table borders in columns not being correctly handled (bug since 2.0 introduced a buffer to save the
borders and print at the end of the table - fixed so does not use buffer if in columns - potentially
does not deal with conflicting borders as well, but works in columns)
- Table cell width if set as a percent was being downsized when autosizing table
- Table CSS was buggy - improved
- SetBasePath (when fetching remote website) - now handles string with query string on it e.g.
http://www.domain.com/index.php?tid=42
- Table cells with Rotated text - text not positioned correctly
- Page number totals not working in utf-8 mode


============================
Code efficiency improvements
```

```
============================
- BIG speed improvement (compared with 2.0) with tables (especially large tables)
- considerable increase in speed if writing long HTML segments to mPDF
- speed improvement for tables (may be very significant if some cells have a lot of text in them
causing uneven column widths)

NB To speed up program more, consider setting $mpdf->useSubstitutions=false; if you do not use any
characters outside the codepage selected


===============
Keep-with-table
===============
(This was introduced in v2.0 but I forgot to document it)
If you set $this->use_kwt = true;
All H1-H6 elements will try to keep with a table that follows immediately afterwards - (this is done
in htmltoolkit, by adding an attribute KEEP-WITH-TABLE)
See Known Issues re: Using kwt inside a div with border/background (doesn't work)




============================
mPDF v2.0  (07/12/2008)
============================
Main New Features in Version 2.0
- nested tables are supported
- supports both models of table border: separate and collapsed
- improved parsing of CSS stylesheets, and better handling of styles throughout
- additional recognised CSS styles
- page orientation, size, and margins can be changed within the document, using PHP script or custom
HTML
- some limited support for @page CSS to define page-box areas, with crop/cross marks for printing
- improved control over headers and footers (including HTML headers/footers)
- improved presentation of Form elements including image-type input fields
- generates an EAN barcode suitable for a book/printed publication
- active forms can be generated - EXPERIMENTAL at present
- change document permissions to allow the user to make annotations - EXPERIMENTAL at present

NB Lines are commented in mPDF script as changes for mPDF 1.4 - this became v2.0

=========
UPGRADING
=========
IMPORTANT - Before Upgrading: Please note that some of the changes will cause mPDF 2.0 to render the
pages differently from earlier versions i.e. it is not totally backwards comaptible. Read the notes on
Backward compatibility before deleting your original set-up.

To upgrade from v<=1.3 to v2.0 you only need to copy and overwrite the following 2 files:
mpdf.php
htmltoolkit.php

Plus (optionally) if you want to use the EAN Barcode function, you will also need:
font/ocrb.xx (several)
unifont/ocrb.xx (several)
IMPORTANT - you need to make sure the ocrb font is added to the config.php file
 - add 'ocrb' to the end of 3 arrays: $this->available_fonts  $this->available_unifonts  and
$this->mono_fonts


==========
Bug Fixes
==========
<columns column-count="0"> did not turn off columns - Fixed

Margins as % - e.g. margin-right: 50% set from CSS incorrectly applied 50% of the fontsize
(Fixed - adding parameter to fn. ConvertSize in htmltoolkit.php and in calls to that function)

DIV Width - e.g. div style="width: 50% was not working
(Fixed - fn.SetCSS and OpenTag()'DIV')
```

```
CSS values as Zero - p { margin: 0; } did not work in stylesheet unless 0 had a unit

Multiple Non-breaking spaces collapsed - e.g. "1     2"  - was contracted to "1 2"
(Fixed - fn.adjustHTML in htmltoolkit.php)

Table cell too narrow causing incorrect printing - If two characters are too wide to print (only
likely within a table cf. example tables - Periodic table) the first character was not printed, just a
new line
(Fixed in fn.WriteFlowingBlock)

Font size by inline style for form elements <input> <textarea> gave wrong size when using a relative
size 0.9em
(Fixed - fn.ConvertSize in htmltoolkit.php)

Creation Date not correctly showing
(Fixed - did not need to convert to UTF16)

New block element started at end of page  - block borders not painted
(Fixed - fn.AddPage)

DL did not close block correctly
(Fixed - mistype in fn. CloseTag)

Transparent not recognised as color/background-color
(Attempted a fix by setting to ignore it! - fn. convertcolor in htmltoolkit.php)

Zero (0) not displaying if only thing in table cell or tags e.g. <td>0</td> <p>0</p>
(Fixed - fn.WriteHTML)

Page Headers/Footers - Simple Headers or Footers defined as e.g. '|{PAGENO}|' were not split into 3
components, but output |6| in the outer margin.
(Fixed)

Could not copy from a completed PDF doc to clipboard when using a TrueTypeUnicode font
(Fixed - fn._puttruetypeunicode - added CIDToGIDMap)

Creating an Index (confusing called CreateReference in mPDF) based on only 1 column (i.e. columns off)
caused it to print FAIL
(Fixed - fn. CreateReference())

Table of Contents - If a ToC entry reached other side of page a warning notice was produced
Fixed - printing is now suppressed and it is moved down a line (but not when using rtl)

"Keep Block Together" (i.e. page-break-inside: avoid for a block element)
If this property causes some text to be moved to the next page, internal link targets (i.e. <a
name="xxx">) were incremented pagenumber by +1 - as this used the calculated document page number,
didn't work if using e.g. roman numerals
(Fixed)
NB This is now ALWAYS disabled when it meets a table - can use page-break-inside:avoid for the table

@import url(style.css) without quotation marks "" was not picked up, although it is valid HTML
(Fixed - fn.ReadCSS())

Reading CSS from external style sheets included all media
Now set by default to ignore media="aural|braille"
Allows media="print" but can exclude by: $mpdf->disablePrintCSS = true; (default = false)
Works on both <link... and <style media="print">@import...
See the web page example - this stops the CSS stylesheets specifically marked for "print" to be
ignored

Table borders (in collapsed model) incorrectly calculated which border had dominance (mPDF <=1.3
determined the overriding border by its color)
(Fixed to follow CSS 2.1 specifications: width >> CSS dominance (cell>table) >> T & L > B & R)
In the border-collapse=collapse mode, the following rules determine which border style "wins" in case
of a conflict:
1. Borders with the 'border-style' of 'hidden' take precedence over all other conflicting borders.
2. narrow borders are discarded in favor of wider ones.
3. styles are preferred in this order: 'double', 'solid', 'dashed', 'dotted', 'ridge', 'outset',
'groove', and the lowest: 'inset'.
4. If border styles differ only in color, then a style set on a cell wins over one on a table.
```

```
5. When two elements of the same type conflict, then the one further to the left or top wins out.

Parsing CSS, a missed level would not be picked up i.e. CSS = div.refstr1 p {...} would not pick up:
<div class="refstr1"> <div class="another"> <p>...
(Fixed - fn. MergeCSS by carrying everything forwards)
      Note: I removed -  &&
!$this->blk[$this->blklvl-1]['cascadeCSS']['CLASS>>'.$attr['CLASS']]['depth']
      Not sure why I put it there in the first place!
      In a later bit of function -  && $this->blk[$this->blklvl-1]['cascadeCSS'][$tag]['depth']>1
      Haven't removed this, but is it needed???

CSS inline style set in TD/TH (font-size, color, weight, font-family or italic) didn't turn off at the
end of the cell (and also formatted the top left cell)
(Fixed)

CSS properties color, font-weight, and font-style set on a table were not inherited by the table cells
(Fixed - var $base_table_properties)

When rotating a table, the text following was positioned incorrectly
(Fixed - fn. printtablebuffer)

When rotating a table, links were not adjusted in position e.g. <a href="">...
(Fixed - fn. printtablebuffer)

If a larger border-thickness was set for a cell in the middle of a table, cells before that
inaccurately calculated the cell wdith needed
(Fixed)

Text in a table cell which was not in a block and followed a list, there was no line break e.g.
</ol>Text following</td>
(Fixed - var $listjustfinished;)

Setting the default font-family from the body tag using in-line CSS did not work e.g. <body
style="font-family:mono"> (did work in external  stylesheets)
(Fixed - fn.WriteHTML)

<link href="..." rel="stylesheet"> was not recognised (because the href comes before the rel)
(Fixed)

Read linked CSS stylesheet OR @import stylesheet - now includes both.

<tag class="class1 class2"> did not set either class1 or class2. Fixed so that it will now pick out
class1 (better than nothing!)

CSS line-height as % - interpreted 120% as 120 (x the font-size) - Fixed so it now accepts % and
numbers

Setting the basepath (used for relative links/external stylesheets etc) with $mpdf->setBasePath() was
generally buggy!
Now allows a domain e.g. $mpdf->setBasePath("http://www.domain.com"); (previously needed slash on end)
(Fixed - hopefully!)

If you were repeatedly calling mPDF in a loop to produce more than one PDF file, it would crash with
error: "You have restricted the number of available fonts to 0". Fixed by editing line 751
require(_MPDF_PATH.'mpdf_config.php'); to require(...


=============
Improvements(?)
=============
Unsupported image files - mPDF died with an error message if image files didn't meet expected format
e.g. an interlaced PNG file
Changed so images are now replaced by the NOIMG image.

Footer margin (HTML and normal footers) now determines the lowest point that is printed (rather than
the place to start printing the footer)
NB IMPORTANT CHANGE - not backwards comaptible

Tabs in <pre> or <textarea> are now replaced by 8 spaces rather than 6 (consistent with
http://www.w3.org/TR/1998/REC-html40-19980424/struct/text.html#edef-PRE)  [fn. AdjustHTML() in
```

```
htmltoolkit.php]

To insert the total number of pages in the document anywhere in the doc, just use '44'
The line:   $mpdf->AliasNbPages();
has now been uncommented allowing 44 to be used
NB This will always give the total no. of pages in the whole document regardless of any changes you
have made to page numbering.
You can change the default placeholder '44' to any string using:  $mpdf->AliasNbPages('[**my
Chars**]');

$mpdf->AliasNbPageGroups();      default="5"
Can be used to set the total number of pages in the current group i.e. between where page numbering is
reset

CSS border correctly fixes "solid 3mm #000000" i.e. (style width color) - (not a bug, but this is
often incorrectly specified)

Can now print div background behind a rotated table.

You can keep columns as they are i.e. 1st column will finish page then start on second, by setting
$mpdf->KeepColumns = true;

Image constrain
===============
Image size is constrained to current margins and page position. Extra parameter added to end of fn.
allows you to override this.
$mpdf->Image('files/images/frontcover.jpg',0,0,210,297,'jpg','',true, false);    // e.g. the last
"false" allows a full page picture
Useful for e.g. a cover page for your document

Cumulative CSS
==============
In version <=1.3, if you call:
$mpdf->WriteHTML($stylesheet,1);
$mpdf->WriteHTML($html);   // this one cleared the array $this->cascadeCSS; conatining cascaded CSS
information from stylesheets
You were meant to call:
$mpdf->WriteHTML($html,2); // which doesn't re-parse the CSS information
v2.0 changed so that
$mpdf->WriteHTML($html); no longers clears the array $this->cascadeCSS and so can be used repeatedly;



================================================
Additional CSSstyles & HTML attributes supported
================================================
<BODY> - font-style, font-weight, color

<IMG> - html attributes width="" and height=""

<TABLE|TD|TH> - border: 'thin' 'medium' and 'thick' are now converted to 1px, 3px and 5px
<TABLE|TD|TH> - border now respects all types - e.g. 'double', 'solid', 'dashed', 'dotted', 'ridge',
'outset', 'groove', and 'inset'
(NB mPDF only supports a full declaration of border e.g. "border: thin double #000000;")

<TD|TH> - CSS style="white-space: nowrap" and HTML attribute nowrap="nowrap"
<TABLE> - page-break-inside: avoid
<TABLE> - border-collapse: separate|collapse
<TABLE> - border-spacing: 2px 2px;  (horizontal/vertical) or just one figure (both) NB same as
cellSpacing
<TABLE> - empty-cells: hide|show  (border-collapse:separate only)
<TABLE> - margin-left and margin-right (previously only supported top and bottom)
<TABLE> - padding: (this was incorrectly used for TD/TH before) (border-collapse:separate only)
<TD|TH> - padding:
<TABLE|TD|TH> - inline style "background" works (with a color only) the same as "background-color"

NB Table page-break-inside, autosize values and rotate are only respected for that set on first level
table of nested tables

<TABLE> - cellSpacing and cellPadding HTML attributes:
```

```
NB cellSpacing is the same as CSS style "border-spacing"
NB cellPadding is a <table> attribute, but sets the cell padding - not table padding

<TABLE> - align="..." now works with a rotated table - but sets the alignment ignoring the rotation
i.e. align=right sets the table to the right side of the page (looking as though it is bottom-aligned)

<BLOCK ELEMENTS> - page-break-before: always|left|right - NB any surrounding block tags will be closed
before the new page is inserted.

@page - see notes on Paged Media

=========================
Unsupported HTML attribute
=========================
<TD border="1"> - not valid HTML - no longer supported


=========
Additions
=========
"Keep-with-table"
$mpdf->use_kwt = true;     // default=false
If set to true, will force any H1-H6 header immediately preceding a table to be kept together with the
table
- automatically sets the table to fit on one page (i.e. page-break-inside=avoid) if it is a rotated
table
- ignored if: Columns on, Keep-block-together active (page-break-inside=avoid for surrounding BLOCK),
active Forms


=====
Notes
=====

NB Not a change - but note you can use this to allow you to feed html code encoded in other than utf-8:
$mpdf->allow_charset_conversion=true;
$mpdf->charset_in='windows-1252';      (needs suitable codes for iconv i.e. windows-1252 not win-1252)

Fixing Optional tags
====================
php.net website has illegal nesting of <dt>.. <dd> .. </dd> .. </dt>  and <p>.. <div> .. </div> ..
</p>
The example wich parses the php.net webpage will not show correctly unless you change:
$mpdf->allow_html_optional_endtags=false;
Trying to fix incorrect (X)HTML with $mpdf->allow_html_optional_endtags==true cancels the P when it
meets a DIV etc.



EAN barcode
===========
An EAN barcode can be generated
function writeBarcode($code, $showisbn=1, $x='', $y='', $size=1, $border=0, $paddingL=1, $paddingR=1,
$paddingT=2, $paddingB=2) {
It accepts 12 or 13 digits with or without - hyphens as $code e.g.
$mpdf->writeBarcode('978-1234-567-890', 1, $mpdf->x, $mpdf->y);
NB - IMPORTANT***
A new font - OCR-B font/unifont is required, and needs to be added to the config.php file
cf. http://www.gs1uk.org/downloads/bar_code/Bar coding getting it right.pdf
Barcode size must be between 0.8 and 2.0 (80% to 200%)

CMYK Colors
===========
Functions - SetDrawColor, SetTextColor and SetFillColor all now take an optional 4th parameter.
If defined this will interpret the input as CMYK color i.e.
SetDrawColor(15,82,0,10)      // NB all values out of 100 - not 255 as for RGB

htmltoolkit.php fn.ConvertColor() - now interprets custom color definition: cmyk(15,82,0,10)
like rgb(r,g,b) except values out of 100
Intended to be used for calling the functions separately - BUT works in a limited way with CSS - does
```

```
not get reset or inherited correctly
<p style="color:cmyk(215,31,15,10)"> does work


DEFAULT CSS
===========
$defaultCSS has been updated to reflect better the standard HTML default e.g. using serif, table
borders separate, cell vertical-align top
To keep mPDF 1.3 (my favourites) I have introduced:
$mpdf->useDefaultCSS2 = true;


==================================
Permissions - forms and Annotations - Experimental!
==================================
You can set the Permissions for the PDF file to allow the user to make Comments (annotations)
$mpdf->setUserRights($enabled=true[default]|false, $annots="/Create/Delete/Modify/Copy/Import/Export",
            $form="/Add/Delete/FillIn/Import/Export/SubmitStandalone/SpawnTemplate",
$signature="/Modify") )

If you encrypt the file, make sure the permissions match e.g.:
$mpdf->setUserRights();
$mpdf->SetProtection(array('print','annots'),'yourPassword','myPassword');

To allow this, changed the PDF-file version to %PDF1.5 (NB Probably needs PDF version > 1.5 but can't
test for this...)

NOTE: If you output the PDF file straight to the browser, it will only allow annotations after you
save the document


============================
Active Forms - Experimental!
============================
At present , using active forms will prevent any internal and external links - that appear before
active forms(?) - from working (why?)
May need to save form for proper use - see example, when scroll forwards and back, the form
disappears??
Need to set Userrights (see above), and $mpdf->useActiveForms=true;
For Output options, see separate notes.



============================
Internal Programming changes
============================
NB fn. tablerotate in htmltoolkit no longer used; now uses a 'transform' to shift the whole block of
PDF code

Graphics State
==============
ExtGState does not need to be redefined - e.g. if a watermark added on every page, turning on and off
alpha/transparency
Unnecessary file size.
function AddExtGState() edited to check if graphics state already exists before adding new one

ASCII-proof code
================

Images
======
1) When copying remote images locally - incorrectly used "unset" now changed to "unlink"
2) When parsing image files - was using CURL for any image src="http://... - even if this was on the
local server - edited so it only uses CURL if necessary/appropriate.
NB Handling images was updated in v1.3 because my ISP changed allow_url_fopen to false
Fixed so mPDF tests if the file is available as a local call e.g. getimage('images/test.jpg') even if
it is defined as a full URI e.g. http://www.mydomain.com/images/test.jpg as this is quicker(?), and
permitted even if allow_url_fopen is false.
If not available as a local file (and allow_url_fopen is set) mPDF tries to use
fopen/file_get_contents using an http wrapper;
```

```
Else, if CURL is available and allow_url_fopen is false: then tries using CURL.
(Clear as mud???!!)


============================
mPDF v1.3  (21/09/2008)
============================
--------------
Page Numbering
--------------
Program changes:
fn. startPageNums() replaced with blank function
fn. stopPageNums() - deleted
fn. numPageNo() - deleted  (all it did was return this->page anyway).
var $_numbering - deleted
var $_numberingFooter - deleted
var $_numPageNum - deleted

NEW
New: fn. AddPages() (as for AddPage but with type=NEXT-ODD or NEXT-EVEN see below)
Edited: fn. AddPage() - new parameters added
AddPage(orientation(NO),type="E|O", resetpagenum="1|0", pagenumstyle="I|i|A|a|1", suppress="on|off")
New: fn. docPageNum() - returns the document page number (or '') based on...
New : PageNumSubstitutions(array)
New attributes:
<pagebreak resetpagenum="1"  // resets document page numbering to 1 from the new page onwards
<pagebreak suppress="on"     // turns on suppression of page numbering i.e. in headers and footers,
{PAGENO} is replaced by blank string
                             // ="0" turns suppression off
<pagebreak pagenumstyle="I|i|A|a|1"      // (re)sets page number stle/type from the new page onwards -
as for lists
                             // 1 - decimal; A/a - alpha (uppercase/lowercase); I/i - Roman
(uppercase/lowercase)
<pagebreak type="NEXT-ODD"   // always adds a page + another if required to make odd
<pagebreak type="NEXT-EVEN"  // always adds a page + another if required to make even

Edited: fn. TOC() // sets the marker for a Table of Contents
New parameters allow the page-numbering details to be set
NB the page-numbering details set are for the page which follows on after the TOC marker is inserted.
The page-numbering for the actual ToC is set later, when the ToC is generated and inserted here
new parameters as above for pagebreak  resetpagenum="1|0", pagenumstyle="I|i|A|a|1", suppress="on|off"

Can also be set by attribute in the <TOC>
<TOC resetpagenum="1" pagenumstyle="I|i|A|a|1", suppress="on|off" />

-----------------------------------------
Changes to allow Rotated Text in table Cells
-----------------------------------------
Edited:
fn. OpenTag()
fn. _tableColumnWidth()
fn. _tableHeight()
fn. _tableWrite()
fn. tableHeader()

New custom style or attribute -- "text-rotate" -- can be set for either <tr> or <th|td>
Allowed values: 45 - 90 (written as integers) - rotates text anticlockwise, and -90 (clockwise)
Positive values less than 90 force cell to: vertical-align:bottom

Limitations:
Only allows single line of text;
Font, font-size, and style are determined by those set fro the cell, and cannot be changed;
No changes in font (or any other in-line changes e.g. <sup>) are supported within the text

Example: <tr style="text-rotate:90">...

---------
Bug fixes
---------
1) HTML footer containing table was triggering page break.
```

```
Added $this->InHTMLFooter as flag to prevent page triggering in footers containing table
Set in fn.writeHTMLFooters() -> in fn.tableWrite() stops the pageBreak being reset

2) Crashing when libcurl not installed.
Edited OpenTag() curl_init - added if (function_exists) to exclude crash when libcurl not installed

3) Single cell with borders not showing the borders.
e.g. <table><tr><td style="border:1px solid #000000?>Hi</td></tr></table>
Problem: mPDF overrides cell border properties with table border properties for external borders.
$defaultCSS had CSS defined for table as '0px solid #000000'
Quick fix - line 273 removed. A more complete fix will require reprogramming to distinguish between
"border property not set" and border property set as "none".

4) Empty textarea incorrectly handled (the following HTML code being output in the textarea)
The html code for an empty textarea was incorrectly handled in htmltoolkit fn. AdjustHTML which has
been edited


==========================
mPDF v1.2   (2008-05-01)
==========================
// Added v1.2 option to continue if invalid UTF-8 chars - used in function is_utf8()
var $ignore_invalid_utf8 = false;

Reading CSS in fn. ReadCSS() and applying in fn. MergeCSS() -
      Edited to allow Tags, class and id with the same name to be distinct i.e. h5 {...}  .h5 {...}
#h5 {...}
* mPDF 1.2 This version supports:  .class {...} / #id { .... }
* ADDED p {...}  h1[-h6] {...}  a {...}  table {...}   thead {...}  th {...}  td {...}  hr {...}
* body {...} sets default font and fontsize
* It supports some cascaded CSS e.g. div.topic table.type1 td
* Does not support non-block level e.g. a#hover { ... }

Table: font-size, weight, style, family and color should all work
TD/TH: font-size, weight, style, family and color should all work

Added to htmltoolkit - fn.array_merge_recursive_unique()

memory_opt Removed in mPDF v1.2 - not working properly

fn. _begindoc() - changed to %PDF1.4 (was 1.3) as PDF version

Write HTML Headers and Footers
------------------------------
fn. Close() - calls writeHTMLHeaders/Footers() before finishing doc
fn. WriteHTML() - added parameter
fn. _out - writes to outputbuffer when writing HTML footers/headers

New
fn. writeHTMLHeaders()
fn. writeHTMLFooters()




======================
mPDF v1.1  (2008-05-01)
======================

Programming changes to increase efficiency
------------------------------------------
fn. WriteHTML() - added lines to combine substituted characters <tta> etc

Memory Optimization added (script from FPDF site) - edited fn. _putpages() and fn. _endpage()

fn. SetFont() edited to return val quicker if font already set (increase efficiency)

new vars chrs and ords are used to store chr() and ord() - quicker than using functions

fn.setMBencoding() - only call mb_internal_encoding if need to change
```

```
Bugs
----
fn. SetDefaultFontSize() - edited to allow to override that set in defaultCSS

fn. Output() - Added temporary(?) disablement of encryption in CJK as it doesn't work!

fn. OpenTag() [LI] $this->blockjustfinished=false to prevents newline after first bullet of list
within table

Uses of mb_ereg_replace removed, and mb_split changed - requires regex_encoding (regex_encoding only
used as UTF-8)

fn. WriteHTML: attributes are trimmed with trim() to allow correct handling of e.g. class="bpmBook "

fn. printbuffer() and fn. openTag() to ensure
 <div><div><p> outputs top margins/padding for both 1st and 2nd div
 and </p></div></div> ...

fn. SetFont() added line - bug fixing in CJK fonts

CSS functionality
-----------------
Added special CSS 'thead-underline' (similar to topntail)

var $thead_font_weight; added (openTag) to enable setting of font-weight for <TH> cells

Fixed table border inheritance: Table border inherits border="1" to cells, but not table
style="border..."

"page-break-inside: avoid" added (var keep_block_together) to allow a DIV or P to be kept on one page
      - not compatible with table autosize or table rotate
      - only works over maximum of 2 pages

Enhancements
------------
Orphans in line justification: R. Bracket ) added to defined list of orphans

allow_url_open
--------------
Following a change in the PHP ini config set on my website by my ISP, changes made to allow mPDF to
work with allow_url_open=OFF.
      - file_get_contents() changed to use libcurl (for CSS files)
      - openTag('IMG') @fopen() and 3 functions _parsegif, _parseJPG, _parsePNG, edited to copy remote
image files to local file to include images

FlowChart
---------
Changes to enable mPDF work with a custom script producing Flowcharts:
      - WriteHTML() second parameter=3 will allow HTML to be parsed but not output
      - fn. Arrow() added
      - TableWordWrap() added parameter to force array return
```