/\*

u8g\_rect.c

U8G high level interface for horizontal and vertical things

Universal 8bit Graphics Library

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\*/

#include "u8g.h"

void u8g\_draw\_hline(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w)

{

uint8\_t pixel = 0x0ff;

while( w >= 8 )

{

u8g\_Draw8Pixel(u8g, x, y, 0, pixel);

w-=8;

x+=8;

}

if ( w != 0 )

{

w ^=7;

w++;

pixel <<= w&7;

u8g\_Draw8Pixel(u8g, x, y, 0, pixel);

}

}

void u8g\_draw\_vline(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t h)

{

uint8\_t pixel = 0x0ff;

while( h >= 8 )

{

u8g\_Draw8Pixel(u8g, x, y, 1, pixel);

h-=8;

y+=8;

}

if ( h != 0 )

{

h ^=7;

h++;

pixel <<= h&7;

u8g\_Draw8Pixel(u8g, x, y, 1, pixel);

}

}

void u8g\_DrawHLine(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w)

{

if ( u8g\_IsBBXIntersection(u8g, x, y, w, 1) == 0 )

return;

u8g\_draw\_hline(u8g, x, y, w);

}

void u8g\_DrawVLine(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w)

{

if ( u8g\_IsBBXIntersection(u8g, x, y, 1, w) == 0 )

return;

u8g\_draw\_vline(u8g, x, y, w);

}

/\* restrictions: w > 0 && h > 0 \*/

void u8g\_DrawFrame(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w, u8g\_uint\_t h)

{

u8g\_uint\_t xtmp = x;

if ( u8g\_IsBBXIntersection(u8g, x, y, w, h) == 0 )

return;

u8g\_draw\_hline(u8g, x, y, w);

u8g\_draw\_vline(u8g, x, y, h);

x+=w;

x--;

u8g\_draw\_vline(u8g, x, y, h);

y+=h;

y--;

u8g\_draw\_hline(u8g, xtmp, y, w);

}

void u8g\_draw\_box(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w, u8g\_uint\_t h)

{

do

{

u8g\_draw\_hline(u8g, x, y, w);

y++;

h--;

} while( h != 0 );

}

/\* restrictions: h > 0 \*/

void u8g\_DrawBox(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w, u8g\_uint\_t h)

{

if ( u8g\_IsBBXIntersection(u8g, x, y, w, h) == 0 )

return;

u8g\_draw\_box(u8g, x, y, w, h);

}

void u8g\_DrawRFrame(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w, u8g\_uint\_t h, u8g\_uint\_t r)

{

u8g\_uint\_t xl, yu;

if ( u8g\_IsBBXIntersection(u8g, x, y, w, h) == 0 )

return;

xl = x;

xl += r;

yu = y;

yu += r;

{

u8g\_uint\_t yl, xr;

xr = x;

xr += w;

xr -= r;

xr -= 1;

yl = y;

yl += h;

yl -= r;

yl -= 1;

u8g\_draw\_circle(u8g, xl, yu, r, U8G\_DRAW\_UPPER\_LEFT);

u8g\_draw\_circle(u8g, xr, yu, r, U8G\_DRAW\_UPPER\_RIGHT);

u8g\_draw\_circle(u8g, xl, yl, r, U8G\_DRAW\_LOWER\_LEFT);

u8g\_draw\_circle(u8g, xr, yl, r, U8G\_DRAW\_LOWER\_RIGHT);

}

{

u8g\_uint\_t ww, hh;

ww = w;

ww -= r;

ww -= r;

ww -= 2;

hh = h;

hh -= r;

hh -= r;

hh -= 2;

xl++;

yu++;

h--;

w--;

u8g\_draw\_hline(u8g, xl, y, ww);

u8g\_draw\_hline(u8g, xl, y+h, ww);

u8g\_draw\_vline(u8g, x, yu, hh);

u8g\_draw\_vline(u8g, x+w, yu, hh);

}

}

void u8g\_DrawRBox(u8g\_t \*u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_uint\_t w, u8g\_uint\_t h, u8g\_uint\_t r)

{

u8g\_uint\_t xl, yu;

u8g\_uint\_t yl, xr;

if ( u8g\_IsBBXIntersection(u8g, x, y, w, h) == 0 )

return;

xl = x;

xl += r;

yu = y;

yu += r;

xr = x;

xr += w;

xr -= r;

xr -= 1;

yl = y;

yl += h;

yl -= r;

yl -= 1;

u8g\_draw\_disc(u8g, xl, yu, r, U8G\_DRAW\_UPPER\_LEFT);

u8g\_draw\_disc(u8g, xr, yu, r, U8G\_DRAW\_UPPER\_RIGHT);

u8g\_draw\_disc(u8g, xl, yl, r, U8G\_DRAW\_LOWER\_LEFT);

u8g\_draw\_disc(u8g, xr, yl, r, U8G\_DRAW\_LOWER\_RIGHT);

{

u8g\_uint\_t ww, hh;

ww = w;

ww -= r;

ww -= r;

ww -= 2;

hh = h;

hh -= r;

hh -= r;

hh -= 2;

xl++;

yu++;

h--;

u8g\_draw\_box(u8g, xl, y, ww, r+1);

u8g\_draw\_box(u8g, xl, yl, ww, r+1);

//u8g\_draw\_hline(u8g, xl, y+h, ww);

u8g\_draw\_box(u8g, x, yu, w, hh);

//u8g\_draw\_vline(u8g, x+w, yu, hh);

}

}