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u8g\_virtual\_screen.c

Universal 8bit Graphics Library

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\*/

#include "u8g.h"

struct \_u8g\_vs\_t

{

u8g\_uint\_t x;

u8g\_uint\_t y;

u8g\_t \*u8g;

};

typedef struct \_u8g\_vs\_t u8g\_vs\_t;

#define U8g\_VS\_MAX 4

uint8\_t u8g\_vs\_cnt = 0;

u8g\_vs\_t u8g\_vs\_list[U8g\_VS\_MAX];

uint8\_t u8g\_vs\_current;

u8g\_uint\_t u8g\_vs\_width;

u8g\_uint\_t u8g\_vs\_height;

uint8\_t u8g\_dev\_vs\_fn(u8g\_t \*u8g, u8g\_dev\_t \*dev, uint8\_t msg, void \*arg)

{

switch(msg)

{

default:

{

uint8\_t i;

for( i = 0; i < u8g\_vs\_cnt; i++ )

{

u8g\_call\_dev\_fn(u8g\_vs\_list[i].u8g, u8g\_vs\_list[i].u8g->dev, msg, arg);

}

}

return 1;

case U8G\_DEV\_MSG\_PAGE\_FIRST:

u8g\_vs\_current = 0;

if ( u8g\_vs\_cnt != 0 )

return u8g\_call\_dev\_fn(u8g\_vs\_list[u8g\_vs\_current].u8g, u8g\_vs\_list[u8g\_vs\_current].u8g->dev, msg, arg);

return 0;

case U8G\_DEV\_MSG\_PAGE\_NEXT:

{

uint8\_t ret = 0;

if ( u8g\_vs\_cnt != 0 )

ret = u8g\_call\_dev\_fn(u8g\_vs\_list[u8g\_vs\_current].u8g, u8g\_vs\_list[u8g\_vs\_current].u8g->dev, msg, arg);

if ( ret != 0 )

return ret;

u8g\_vs\_current++; /\* next device \*/

if ( u8g\_vs\_current >= u8g\_vs\_cnt ) /\* reached end? \*/

return 0;

return u8g\_call\_dev\_fn(u8g\_vs\_list[u8g\_vs\_current].u8g, u8g\_vs\_list[u8g\_vs\_current].u8g->dev, U8G\_DEV\_MSG\_PAGE\_FIRST, arg);

}

return 0;

case U8G\_DEV\_MSG\_GET\_WIDTH:

\*((u8g\_uint\_t \*)arg) = u8g\_vs\_width;

break;

case U8G\_DEV\_MSG\_GET\_HEIGHT:

\*((u8g\_uint\_t \*)arg) = u8g\_vs\_height;

break;

case U8G\_DEV\_MSG\_GET\_PAGE\_BOX:

if ( u8g\_vs\_current < u8g\_vs\_cnt )

{

u8g\_call\_dev\_fn(u8g\_vs\_list[u8g\_vs\_current].u8g, u8g\_vs\_list[u8g\_vs\_current].u8g->dev, msg, arg);

((u8g\_box\_t \*)arg)->x0 += u8g\_vs\_list[u8g\_vs\_current].x;

((u8g\_box\_t \*)arg)->x1 += u8g\_vs\_list[u8g\_vs\_current].x;

((u8g\_box\_t \*)arg)->y0 += u8g\_vs\_list[u8g\_vs\_current].y;

((u8g\_box\_t \*)arg)->y1 += u8g\_vs\_list[u8g\_vs\_current].y;

}

else

{

((u8g\_box\_t \*)arg)->x0 = 0;

((u8g\_box\_t \*)arg)->x1 = 0;

((u8g\_box\_t \*)arg)->y0 = 0;

((u8g\_box\_t \*)arg)->y1 = 0;

}

return 1;

case U8G\_DEV\_MSG\_SET\_PIXEL:

case U8G\_DEV\_MSG\_SET\_8PIXEL:

if ( u8g\_vs\_current < u8g\_vs\_cnt )

{

((u8g\_dev\_arg\_pixel\_t \*)arg)->x -= u8g\_vs\_list[u8g\_vs\_current].x;

((u8g\_dev\_arg\_pixel\_t \*)arg)->y -= u8g\_vs\_list[u8g\_vs\_current].y;

return u8g\_call\_dev\_fn(u8g\_vs\_list[u8g\_vs\_current].u8g, u8g\_vs\_list[u8g\_vs\_current].u8g->dev, msg, arg);

}

break;

}

return 1;

}

u8g\_dev\_t u8g\_dev\_vs = { u8g\_dev\_vs\_fn, NULL, NULL };

void u8g\_SetVirtualScreenDimension(u8g\_t \*vs\_u8g, u8g\_uint\_t width, u8g\_uint\_t height)

{

if ( vs\_u8g->dev != &u8g\_dev\_vs )

return; /\* abort if there is no a virtual screen device \*/

u8g\_vs\_width = width;

u8g\_vs\_height = height;

}

uint8\_t u8g\_AddToVirtualScreen(u8g\_t \*vs\_u8g, u8g\_uint\_t x, u8g\_uint\_t y, u8g\_t \*child\_u8g)

{

if ( vs\_u8g->dev != &u8g\_dev\_vs )

return 0; /\* abort if there is no a virtual screen device \*/

if ( u8g\_vs\_cnt >= U8g\_VS\_MAX )

return 0; /\* maximum number of child u8g's reached \*/

u8g\_vs\_list[u8g\_vs\_cnt].u8g = child\_u8g;

u8g\_vs\_list[u8g\_vs\_cnt].x = x;

u8g\_vs\_list[u8g\_vs\_cnt].y = y;

u8g\_vs\_cnt++;

return 1;

}