

libshbeu

Overview

libshbeu is a library for controlling the SH-Mobile hardware blend engine unit (BEU). The BEU supports overlay, alpha blending and colorspace conversion.

This library has been primarily developed and tested on the SH-MobileR2R (SH7724) device using the MS7724 development board.

Download

- libshbeu-1.1.0.tar.gz

This source archive contains:

- src/libshbeu: the libshbeu shared library
- src/tools: commandline tools

Source

The source archive is available via git, at github.com/pedwo/libshbeu:

```
git clone git://github.com/pedwo/libshbeu.git
```

Tools

- shbeu-display

shbeu-display is a commandline program for displaying raw image or video files. It uses the SH-Mobile BEU to perform simultaneous colorspace conversion and blending on each input frame. It allows the user to pan the foremost image.

```
Usage: shbeu-display [options] -i <input file>
Overlays raw image data using the SH-Mobile BEU and displays on screen.
Options and input file can be specified for up to 3 inputs, e.g.
  shbeu-display -s vga -i vga.yuv -s qvga -i qvga.rgb -s qcif -i qcif.rgb
```

```
Input options
-c, --input-colorspace (RGB565, RGBx888, NV12, YCbCr420, NV16, YCbCr422)
    Specify input colorspace
-s, --input-size      Set the input image size (qcif, cif, qvga, vga, d1, 720p)
```

```
Control keys
Space key      Read next frame
Cursor keys   Pan
=             Reset panning
q             Quit
```

```
Miscellaneous options
-h, --help      Display this help and exit
-v, --version   Output version information and exit
```

```
File extensions are interpreted as follows unless otherwise specified:
.yuv   YCbCr420
.420   YCbCr420
.422   YCbCr422
.rgb   RGB565
.565   RGB565
.x888  RGBx888
```

Kernel configuration

libshbeu uses the Linux kernel UIO support for the SH-Mobile BEU, this is not in the mainline kernel. You will have to manually add this capability.

The following kernel boot option reserves physically contiguous memory for BEU use:

```
memchunk.beu0=4m
```

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