Porting U-boot

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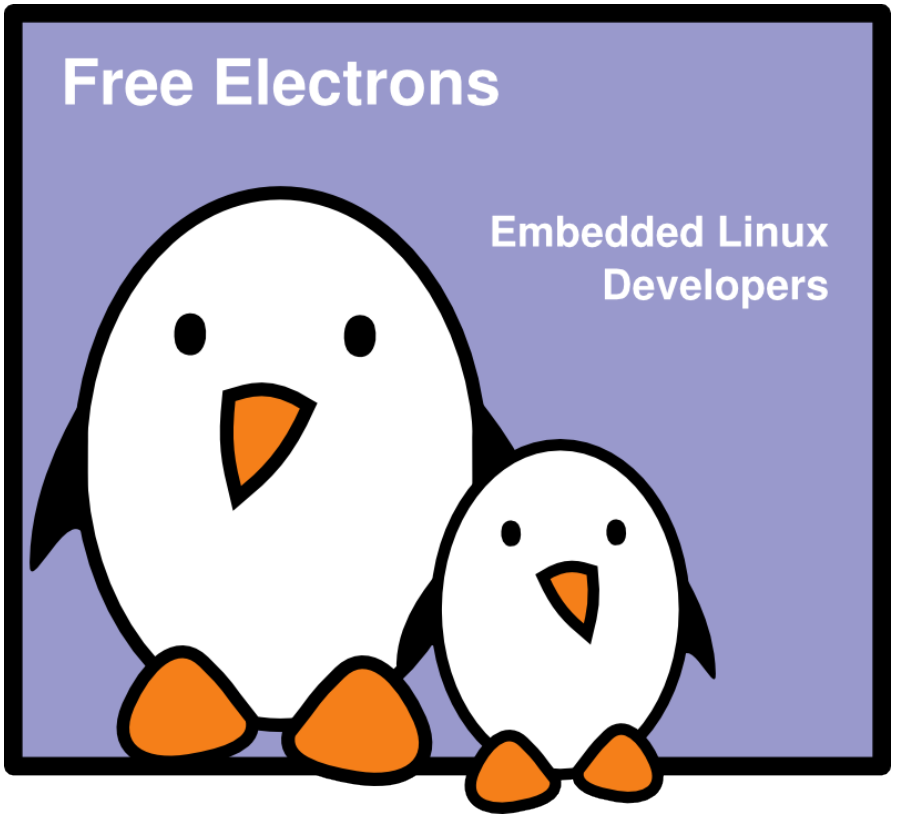
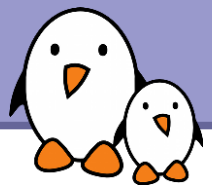
Free Electrons





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http://free-electrons.com/docs/porting-u-boot

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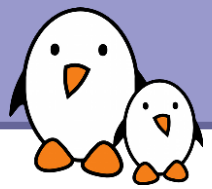

Porting U-boot (1)

It is relatively easy to port U-boot to a new board.
This explains its success.

- Look for an already supported board which is as close as possible to yours.
- Create a new file in `include/configs`.
  For example, have a look at the `adsvix.h` file (pxa270 processor).

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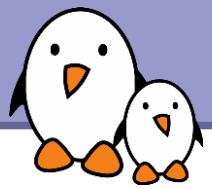

Porting U-boot (2)

- Then create support code in the `board` directory
- Example: have a look at `board/adsvix`:
  `adsvix.c`
  `config.mk`
  `lowlevel_init.S`
  `Makefile`
  `pcmcia.c`
  `pxavoltage.S`
  `u-boot.lds`
- You will find many similarities with `board/lubbock`.

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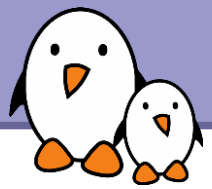

Porting U-boot (3)

Then, add your board to the following files:

- `MAKEALL`:

```
LIST_pxa="      \
        adsvix          cerf250         cradle          csb226          \
        delta           innokom         lubbock         pleb2           \
        pxa255_idp      wepep250        xaeniax         xm250           \
        xsengine        zylonite                                        \
```

- `Makefile`:

```
adsvix_config   :       unconfig
        @$(MKCONFIG) $(@:_config=) arm pxa adsvix
```

- `include/asm-arm/mach-types.h`:

```
#define MACH_TYPE_ADSVIX                620
```

(originating from Linux headers, should already be present)

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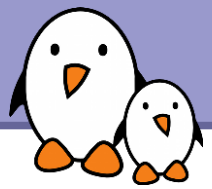

Other U-boot implementation details

- CPU support implemented in the `cpu/` directory

```
74xx_7xx   arm926ejs   i386         mips      mpc8260   nios      sa1100
arm1136    arm946es    ixp          mpc5xx    mpc83xx   nios2
arm720t    arm_intcm   lh7a40x      mpc5xxx   mpc85xx   ppc4xx
arm920t    at32ap      mcf52x2      mpc8220   mpc86xx   pxa
arm925t    bf533       microblaze   mpc824x   mpc8xx    s3c44b0
```

- Device drivers implemented in `drivers/`
  A lot of reuse from Linux drivers!
- Headers implemented in `include/`
  and in `include/asm-<arch>/` (mostly Linux headers)

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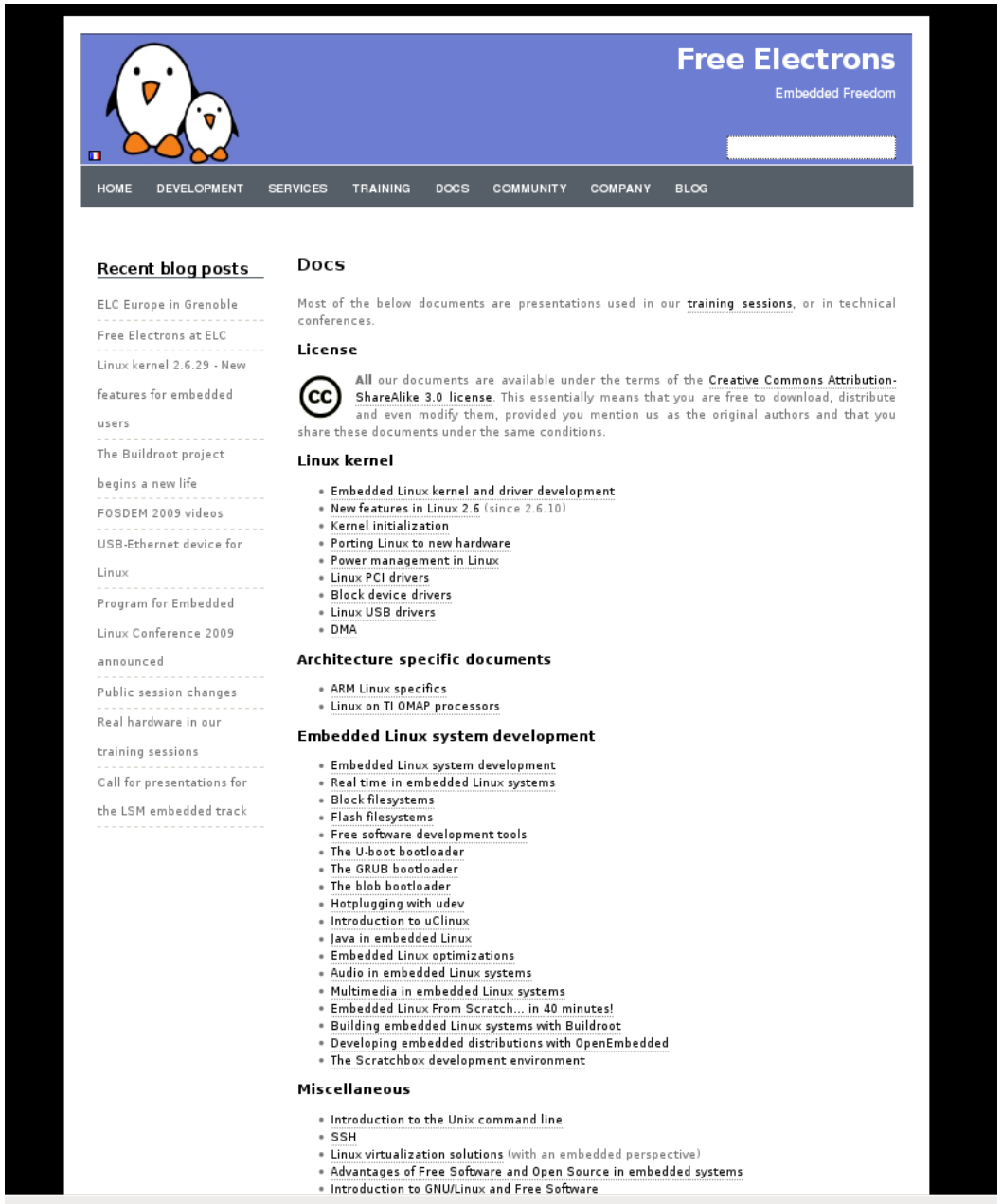

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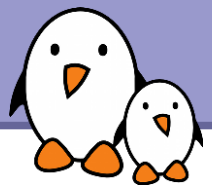

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