

Xinu source package readme

1. Update to original files

/config/Configuration

Adding:

```
dht11:
  on dht11
    -i ionull -o ionull -c ionull
    -r dht11read -g ionull -p ionull
    -w ionull -s ionull -n ionull
    -intr ionull

tmp36:
  on tmp36
    -i ionull -o ionull -c ionull
    -r tmp36read -g ionull -p ionull
    -w ionull -s ionull -n ionull
    -intr ionull
```

Adding:

```
/* DHT11 devices */
DHT11_0 is dht11 on dht11 csr 39

/* TMP36 devices */
TMP36_0 is tmp36 on tmp36 csr 0
```

/include/xinu.h

Adding:

```
#include <adc.h>
```

/include/prototypes.h

Adding:

```
/* in file readdht11.c */
extern devcall readdht11(struct dentry *, uint32 *);

/* in file dht11read.c */
extern devcall dht11read(struct dentry *, void *, uint32);

/* in file readtmp36.c */
extern devcall readtmp36(struct dentry *, uint32 *);

/* in file tmp36read.c */
extern devcall tmp36read (struct dentry*, void *, uint32);
```

/include/gpio.h

Changing to:

```
/* gpio.h */

#define GPIO_0 0x44E07000
#define GPIO_1 0x4804C000
#define GPIO_2 0x481AC000
#define GPIO_3 0x481AE000

struct gpio1_csreg {
    volatile uint32 revision;    //0-4
    volatile uint32 res1[3];    //4-10
    volatile uint32 sysconfig;  //10-14
    volatile uint32 res2[3];    //14-20
    volatile uint32 eoi;        //20-24
    volatile uint32 irqstatus_raw_0; //24-28
    volatile uint32 irqstatus_raw_1; //28-32
    volatile uint32 irqstatus_0;  //32-36
    volatile uint32 irqstatus_1;  //36-40
    volatile uint32 irqstatus_set_0; //40-44
    volatile uint32 irqstatus_set_1; //44-48
    volatile uint32 irqstatus_clr_0; //48-52
    volatile uint32 irqstatus_clr_1; //52-56
    volatile uint32 irqwaken_0; //56-60
    volatile uint32 irqwaken_1; //60-64
    volatile uint32 res3[50];    //64-114
    volatile uint32 sysstatus;  //114-118
    volatile uint32 res4[6];    //118-130
    volatile uint32 ctrl;       //130-134
    volatile uint32 oe;         //134-138
    volatile uint32 datain;     //138-142
    volatile uint32 dataout;    //142-146
    volatile uint32 leveldetect0; //146-150
    volatile uint32 leveldetect1; //150-154
    volatile uint32 risingdetect; //154-158
    volatile uint32 fallingdetect; //158-162
    volatile uint32 debouncenable; //162-166
    volatile uint32 debouncingtime; //166-170
    volatile uint32 res5[13];    //170-190
    volatile uint32 cleardataout; //190-194
    volatile uint32 setdataout;  //194-198
};
```

/system/main.c

Adding:

process udp_routine()

Description: The process to communicate with the server, it actively waiting for the request from server and return the data as required.

process dht11_routine()

Description: The process to monitoring the DHT11 devices

process tmp36_routine()

Description: The process to monitoring the TMP36 devices

2. New files

/device/dht11/readdht11.c

- devcall readdht11(struct dentry , *uint32*)
 - Low level driver
 - Read from a DHT11 device
 - Sending start signal
 - Receiving response
 - Write 5 integer to the buffer provided

/device/tmp36/readtmp36.c

- devcall readtmp36(struct dentry , *uint32*);
 - Low level driver
 - Using TSC_ADC to read from a TMP36 sensor
 - Write 1 integer to the buffer provided

/include/adc.h

Include the address information of TSC_ADC